

**Evaluation of Cultural Competency in Type 2 Diabetes Mellitus (T2DM) Intervention
Programs in Saskatoon for Saskatchewan Métis**

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By

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ABSTRACT

Métis people in Canada experience Type 2 Diabetes Mellitus (T2DM) at a rate that is substantially higher than the general Canadian population, and therefore require medical and public healthcare for diabetes complications. Despite a growing literature examining Aboriginal health, little is known about how diabetes healthcare interventions are being delivered to the Métis in Canada. Culturally competent medical and public health interventions, those that are sensitive to the culture, history and the beliefs people hold, are known to produce better patient outcomes. These interventions are also known to deliver greater patient satisfaction, and may reduce existing health inequities. This thesis explores the extent to which community-level diabetes healthcare interventions in Saskatoon are being delivered to the Métis people in a manner that is appropriate and sensitive to their culture.

Data were collected using semi-structured in-depth interviews with seven Métis participants living with diabetes. Structured in-depth interviews were conducted with one key informant from Central Urban Métis Federation Inc. (CUMFI), and five healthcare practitioners tasked with providing T2DM interventions. Observations and documentary materials were used to supplement the interview data for the study.

The study identified two main community-level diabetes healthcare interventions in Saskatoon with a series of activities organized under them. Although the study found no Métis specific T2DM healthcare intervention, participants identified that Métis cultural activities such as jigging and community gardening were incorporated into some of the interventions. However, language, Métis traditional foods, and traditional approaches to teaching were not incorporated into these programs. These omissions, coupled with barriers such as limited spatial accessibility, lack of funding and community poverty have repercussions on participation levels, participant retention and health outcomes for participants living with diabetes. Respondents are less inclined to participate if interventions are generic (non-Métis specific), which are considered less satisfactory. In turn, this may affect the sustainability of the healthcare program resulting in poor health outcomes. In this way the Métis continue to struggle with these community-level diabetes healthcare intervention programs. This study supports the need for Métis-specific community-level diabetes healthcare interventions as a means of improving health outcomes for the fight against T2DM among Métis people.

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DEDICATION

To my wife Linda Asuaa Nyarko

And my son Kwadwo Owusu-Boabang

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LIST OF ABBREVIATIONS

ADI	Aboriginal Diabetes Initiative
APS	Aboriginal People Survey
CHEP	Child Hunger Educational program
CIHR	Canadian Institute for Health Research
CUMFI	Central Urban Métis Federation
FNIHB	First Nations and Inuit Health Branch
KSDPP	Kahnawake Schools Diabetes Prevention Program
MN-S	Métis Nation- Saskatchewan
MOAUIPP	Métis Off-reserve Aboriginal and Urban Inuit Prevention promotion
NAHO	National Aboriginal Health Organization
OCAP	Ownership, Control, Access, Protection
PHAC	Public Health Agency of Canada
PHIRIC	Population and Health Intervention Research Initiative for Canada
SIMFC	Saskatoon India Métis Friendship Centre
SLDHP	Sandy Lake Health and Diabetes Project
SWITCH	Student Wellness Initiative Community Health
T2DM	Type 2 Diabetes Initiative
UFNIMDP	Urban First Nation, Inuit and Métis Diabetes Prevention
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Research context

From ancient to contemporary times, national and regional governments have measured their success based on how they have prolonged human lives through improved health status. The health of a population has been defined by the World Health Organization (WHO) as a state of physical, mental and emotional well being of an individual (World Health Organization, 2008), which determines the quality of human capital for development. However, health disparities exist both within and between countries (Johnson et al., 2008). Many people continuously suffer from uneven burdens of disease, and lesser life expectancy. These disparities in health are a key public health and social justice concern.

Where such disparities are considered unjust, or are the result of unfair policies or artificially limited access to resources, they may be more correctly termed *inequities* (Frohlich, Ross, & Richmond, 2006). This has prompted global efforts in the 1990s and 2000s to address health inequities between and within countries through the establishment of international commissions and organizations such as the WHO Commission on Social Determinants of Health, launched in March 2005 (World Health Organization, 2008). The establishment of organizations such as this has triggered actions from countries to tackle the growing health inequalities and inequities within and between them.

Canada has strived from the past to address the health inequities within the country. However, these efforts have met with limited success; some key population health goals, such as ensuring healthy living for all people have not been not fully achieved (Ghosh & Gomes, 2011; Johnson et al., 2008). Not only has Canada not achieved equity in health, but it has also seen health inequities growing for some populations, prompting the establishment of a Health Equity Commission aimed at reducing health inequalities by addressing the social determinants of health (Johnson et al., 2008), the elements that make up the social and economic environment in which we live, and which are critical in establishing our potential for health.

In many parts of the world health inequities exist between the mainstream population and Indigenous¹ populations. In Canada, arguably the most remarkable health inequities are those existing between Aboriginal² people and the general Canadian population. Perhaps most notably, here exist disparities in the prevalence and the incidence rates of chronic diseases among the Aboriginal population and the general Canadian population partly as a result of inequitable distribution of resources (Frohlich et al., 2006; Waldram, Herring, & Young, 2006). Aboriginal people have poor health status, coupled with poverty, and are considered a marginalized group faced with health problems in an otherwise affluent country (Waldram et al., 2006). Aboriginal peoples' health is considered as a product of complex interactions of physiological, spiritual, cultural, sociological, historical and environmental factors basically stemming from colonization (Kumar, Wesche, & McGuire, 2012; Waldram et al., 2006).

The Canadian healthcare system is generally based on Euro-Canadian model (National Aboriginal Health Organization, 2009). However, Canada has a multicultural population, which includes the Aboriginal people. This means that there are significant cultural differences between some groups. Therefore, the expectation that all the groups will conform to 'colonially-based' healthcare might be seen to be unfair to the Aboriginal populations not accustomed to the cultural biases on which the Euro-Canadian healthcare is based (Frohlich et al., 2006; National Aboriginal Health Organization, 2009). This is also true for the Métis, and it is partly seen as the reason why some Aboriginal groups have poor health status. Today, they suffer from degenerative diseases such as Type 2 Diabetes Mellitus (T2DM) at rates substantially greater than any other Canadian population (Dyck, Osgood, Lin, Gao, & Stang, 2010). These differences in the rates of chronic disease, among other health conditions, are evidence of fundamental health inequities existing between the two.

Diabetes is a general health problem in the world, afflicting people from different countries and backgrounds. It is classified as a chronic, non-infectious disease that can have serious complications if not managed well, such as coronary artery disease, neuropathy, diabetic retinopathy and damage to the feet, leading to amputations (Bhojani et al., 2013). Further,

¹ The term Indigenous as used in this thesis is an inclusive term mainly used to describe populations at the global scale who are equivalent, to the Aboriginal people of Canada.

² For the purpose of this study, the term "Aboriginal" is used to refer to Canadians who self identify as First Nation, Métis, or Inuit. These are the main Indigenous groups recognized under the 1982 Canadian constitution.

diabetes puts a burden on the people living with the disease, their families, communities and the healthcare system of their countries, particularly through its complications or even death. In 2008, non-communicable diseases, including diabetes and their complications accounted for over 36 million deaths in the world (World Health Organization, 2011). The Public Health Agency of Canada (PHAC) estimated that there are more than 285 million people in the world living with diabetes, many requiring specific interventions formulated for them (PHAC, 2011). This global burden is increasing, and the nature of its victims is changing. Long considered as a disease of old age, Type 2 diabetes is now being seen in children under the age of 10 (Dyck, Osgood, Gao, & Stang, 2012). In turn, the emerging diabetes pandemic has serious implications for global health in general. Participants of the 2011 United Nations high level meeting indicated that diabetes among other non-communicable diseases is a threat to achieving some health goals established by the international community (United Nations General Assembly, 2011).

Diabetes is one of the leading causes of higher burden of diseases in Canada and the subject of one of the most significant current discussions in public health. The prevalence of the disease among the Canadian population from 1998/1999 to 2008/2009 increased by 70% thus; between 2008 and 2009 over 200,000 Canadians were newly diagnosed with diabetes. This represents 6.3 cases per every 1000 population (PHAC, 2011). There were about 2.4 million people known to be living with diagnosed diabetes in Canada in 2010, and about 93% of these cases are of T2DM (PHAC, 2011). This number represents 6.8% of the total population, with a prevalence rate of 8.7% (PHAC, 2011). It is estimated that the number of people with diabetes in the country will reach 3.3 million by the end of 2015 and 4.8 million in 2024 with prevalence rates of 9.0% and 11.8% respectively, if the current growth in incidence rate associated with the disease continues (PHAC, 2011; Shaw, Sicree, & Zimmet, 2010). However, the Canadian Diabetes Association has estimated that more than 9 million Canadians are living with diabetes or prediabetes³ (Canadian Diabetes Association, March, 2011).

³ Prediabetes refers to blood glucose levels that are higher than normal, but not yet high enough to be diagnosed as T2DM. It is estimated that nearly 50% of the people with prediabetes go on to develop T2DM. (See; <http://www.diabetes.ca/about-diabetes/prediabetes>. Accessed on September 23, 2014)

In Canada, diabetes has been associated with large numbers of serious health complications and even untimely deaths. It is estimated that one in every ten deaths among Canadian adults in 2008/2009 was ascribed to diabetes (PHAC, 2011). People living with diabetes are three to four times more likely to be hospitalized for cardiovascular-related diseases, more than 12 times likely to be hospitalized with end-stage renal diseases, and more than 20 times more likely to be hospitalized for non-traumatic lower limb amputation compared to people living without diabetes (Canadian Diabetes Association Clinical Practice Guidelines Expert Committee, 2013). Again, foot ulcerations affect a projected 15-20% of people living with diabetes, and one-third of amputations which occurred in 2011/2012 were performed on people who reported a diabetic foot wound (Canadian Institute for Health Information, 2013).

At the provincial level, Saskatchewan has a substantial number of people diagnosed with diabetes. The staggering facts of diabetes in the province reveal that about 38,124 people were diagnosed in 1996 as living with the disease (Saskatchewan Ministry of Health, 2010). The Ministry's Population Health branch further reveals that about 3,200 people in the province are newly diagnosed with diabetes each year. In the year 2002, a little over 47,000 people in the province were diagnosed as living with diabetes, and it is estimated that over an additional 23,000 people in Saskatchewan have diabetes, but remain undiagnosed (Saskatchewan Ministry of Health, 2010). This is the type of diabetes which is unseen but in clinical terms constitute part of the disease burden for a population (Young & Mustard, 2001). This can lead to higher mortality rates due to the complications associated with the disease, and, while undiagnosed, will nonetheless have an impact on the healthcare system (Young & Mustard, 2001).

Despite representing only about 4.3% of the total Canadian population (Statistics Canada, 2012), Aboriginal people constitute the largest percentage of the total number of people diagnosed to be suffering from diabetes (Canadian Diabetes Association Clinical Practice Guidelines Expert Committee, 2013; Canadian Institute for Health Information, 2013). Studies have suggested that the occurrence of T2DM in the Canadian Aboriginal population is about three to five times higher than in the general population (Bruce, 2000a; Oster et al., 2011; Young, Reading, Elias, & O'Neil, 2000). This view is consistent with observations made in other studies on diabetes among Aboriginal people (example Dyck et al., 2010; Métis National Council, 2006; Shah, Cauch-Dudek, & Pigeau, 2011; Young, Reading, et al.,

2000), suggesting the extent to which T2DM is, at present, more of an urgent health problem for Aboriginal Canadians than for the general population.

Diabetes among the Aboriginal population in Canada as a health challenge dates from only a few decades back (Bruce, 2000a), emerging as an epidemic perhaps since the 1950s (Young, Száthmary, Evers, & Wheatley, 1990). Métis people in Canada experience diabetes at a rate similar to the other Aboriginal groups. The prevalence rate is substantially higher than the general Canadian population, and therefore Métis people require healthcare for diabetes complications far more frequently (Métis National Council, 2006; Ramsden, Patrick, Bourassa, Crowe, & McKay, 2010). The General Social Survey organized in 1991 by Statistics Canada, for instance, indicated that the prevalence rate of diabetes among Métis residing in western Canada was 6.1%. This was greater than the rate (3.1%) in the general Canadian population (Bruce, 2000). In 2008/2009, the diabetes prevalence rate among the Métis population was pegged at 7.3% compared to 5% in the non-Aboriginal population, a situation compounded by barriers to healthcare interventions for the Aboriginal people as a whole (PHAC, 2011). Also, the 2006 Aboriginal Peoples Survey indicated that in Canada, about 7% of Métis aged 15 years and over in western Canada were living with diabetes (Statistics Canada, 2009). Furthermore, an alarmingly early onset of the disease coupled with its high rates of complications have aggravated the problem of T2DM among most Aboriginal groups (PHAC, 2011).

Métis people accounted for about 30% of the total Aboriginal population in Canada and had the highest population growth of the three groups of Aboriginal people between 1996 and 2001. During this period the Métis population grew by 43% (Statistics Canada, 2003). According to the 2006 Census, 389,785 people in Canada identified themselves as Métis. Most of the Métis population (87%) in Canada resides in the Prairie provinces, British Columbia and Ontario, while about 7% lived in Quebec, 5% in Atlantic Canada, and the remaining 1% in the three territories (Statistics Canada, 2012).

The city of Saskatoon has seen sustained growth in its Métis population over the past two decades. The 2001 Census shows that a total of 8,305 Métis were living in Saskatoon (Statistics Canada, 2003). Additionally, the 2006 Census puts the total number of Métis in Saskatoon at 9,610. The 2006 Census further states that Métis population in Saskatoon accounts for 9.3% of the total population in the city, this proportion is second only to

Winnipeg (10%) among Canadian cities (Urban Aboriginal Peoples Study, 2011). The 2011 Census sets the number of Métis in the city at 11,520. It is projected that the total number of Métis in the city will grow by at least 25% in the next 5 years (2012 to 2017) (Statistics Canada, 2012).

Even though Canada's Métis are constantly faced with problems such as unemployment, poverty and food insecurity resulting in a high prevalence in diseases such as T2DM, greater variability exist within the Métis population. This has heightened the need for Métis communities in Canada to access proper public health and healthcare intervention programs/services and policies to address the diabetes problem in their communities. Further, the urgent need to find solutions to address the rapid rise of diabetes has been reiterated in the United Nations Resolution passed on 14th November, 2006, establishing World Diabetes day (United Nations, 2006). The Canadian government has also responded to this by formulating measures through PHAC to find solutions and manage the disease (PHAC, 2011). The federal government in 1999 initiated the Aboriginal Diabetes Initiative (ADI) with seed funding of 58 million dollars to reduce the incidence of T2DM through actions such as health promotion to address the social determinants of health and reform the health system (PHAC, 2011).

In keeping with this, there are a number of health intervention programs⁴ aimed at disease prevention and managing the complications of diabetes among the Aboriginal populations. These programs are appropriate for lifestyle changes to prevent the disease, and provide care to those who are disproportionately affected by the disease in order to avoid developing complications (Mau et al., 2001). It is estimated that in a year, the Canadian Government spends close to 9 billion dollars on Type 1 and 2 diabetes intervention and prevention for the entire population (Métis National Council, 2006). It is anticipated that the government would spend about \$13.5 billion by the end of 2015 and about \$17 billion by 2017 (Canadian Diabetes Association Clinical Practice Guidelines Expert Committee, 2013).

⁴ These are community-level health interventions aimed at public health promotion and healthcare interventions aimed at managing the complications associated with the diabetes. However, these two interventions are not mutually exclusive. This study will focus on healthcare interventions because the study's participants are Métis living with diabetes.

While community-level interventions are not developed to prevent Type 1 diabetes, they are implemented to prevent T2DM. Therefore, these health intervention programs have been rolled out to minimize the incidence of the disease and its associated complications. This is because the risk factors, which increase the likelihood of contracting the disease, can be targeted and reduced through intervention programs (Bartlett, Sanguins, Carter, Hoepfner, & Mehta, 2010). However, it is assumed that when such interventions are designed in a way that is sensitive to Aboriginal culture, they will lead to better patient outcomes (Brathwaite & Majumdar, 2006). As such, health intervention delivery should be influenced by the cultural context of the people for whom it was targeted (Birch, Ruttan, Muth, & Baydala, 2009). Culturally appropriate health intervention takes into account the cultural values, behavior and needs of the targeted people, because the perception of illness and disease varies across different cultural groups (Lie, Lee-Rey, Gomez, Bereknyei, & Braddock, 2011; McKennitt & Currie, 2012; Zeh, Sandhu, Cannaby, & Sturt, 2012). This in turn, influences how symptoms of disease are recognized and interpreted (L. M. Anderson, Scrimshaw, Fullilove, Fielding, & Normand, 2003). Therefore, strategies used for delivering health, interventions both at the individual and the population levels, should be based on having the cultural knowledge to adequately address the health issues including diabetes (Tripp-Reimer, Choi, Kelley, & Enslein, 2001).

For interventions at population level (community-level), uptake is likely to be greater when the programs are designed to conform to the cultural needs of the community. Since this is the most effective way of preventing diabetes, and reducing its complications, many authors advocate that community-level health interventions should be culturally sensitive (Birch et al., 2009; Cabellero & Tenzer, 2007; Zeh et al., 2012). Beach et al. (2005) found that most health intervention programs for minority populations that do not match the belief systems of the target population are likely to produce poorer health outcomes. In justifying this argument, other scholars (example Barlow et al., 2008; Birch et al., 2009) have argued that sustained implementation of diabetes intervention programs that are sensitive to the culture of the targeted population have the potential of improving patient health outcomes.

Many authors have defined the concept of cultural competence of health intervention programs variedly. While some tie their definition to integrating cultural practices and traditions into health (Barlow et al., 2008; Zeh et al., 2012), others tie it to equipping health practitioners to deliver health intervention program in a culturally appropriate manner to a

particular cultural group (Campinha-Bacote, 1999, 2002). Other authors have also used different concept such as cultural humility to replace cultural competency (Hunt, 2001; Tervalon & Murray-Garcia, 1998). These differences will be explored further in Chapter 2.

Now adopted into many health intervention programs for some groups in the world (Zeh et al., 2012), cultural beliefs, values and norms have been integrated within many diabetes intervention programs among some Aboriginal populations (Ho, Gittelsohn, Harris, & Ford, 2006; Macaulay et al., 2003; Saksvig et al., 2005). Some culturally competent interventions in Canada are known to have resulted in increased participant retention and improved health outcomes for diabetes. For example, in an analysis of a case of culturally competent diabetes intervention in Sandy Lake (Ontario) First Nation (*Ne gaaw saga 'igan*); Haase, Harris, He, Naqshbandi, and Webster-Bogaert (2008) observed a reduction in childhood obesity and complications associated with T2DM after the implementation of the intervention program. Similarly, in an assessment of the performance of diabetes health intervention developed for Kahnawake (*Kanien'kehá:ka*); Lévesque, Guilbault, Delormier, and Potvin (2005) and Paradis et al. (2005) in the longer term found a reduction in the prevalence of diabetes and its associated complications in the community.

Despite a growing literature examining Aboriginal health, little is known about how diabetes health interventions are being delivered to the Métis in Canada. As such, it is not clear if the health interventions being delivered to the Métis are sensitive and appropriate to their cultural practices. The bulk of the literature on T2DM, whether in terms of incidence or treatment, has been focused on First Nations peoples such Sandy Lake and Kahnawake communities but not on Métis. Indeed, Young (2003) studied health research among the Aboriginal people in Canada and observed that Métis health in Canada is understudied in general, and there is little evidence that this has changed greatly in the ensuing decade. Most of these studies conducted on Aboriginal health have focused on First Nations (60%) and Inuit (34%) people, and the Métis placed a distant third (6%) in terms of the number of studies reviewed (Young, 2003). There is a significant gap in the literature on the research on Métis health in Canada, especially Métis diabetes health intervention programs/services in Saskatchewan.

Also, such studies within these groups have not explored the cultural competency of T2DM health interventions. Of those studies conducted with Métis, none make any reference to the concept of cultural competency and health interventions for T2DM diabetes. In what is

considered as the first detailed analysis of the impact of diabetes among self-identified Métis in Canada, Bruce (2000a) identified that diabetes has a substantial impact on the life expectancy of Métis. Further, Bruce (2000l) identified risk factors associated with Métis diabetes. Subsequently, other researchers (example Bruce, 2000a; Bruce, 2000l; Bruce, Kliewer, Young, Mayer, & Wajda, 2003) carried out Métis diabetes research on the impact of the disease. However, most of these studies were carried out in Manitoba. The first Métis population based health research was on health utilization in Manitoba (Martens et al., 2010). This subsequently triggered other investigations such as cancer diabetes related health facilities utilization (Bartlett et al., 2010), and cancer and related health facilities utilization (Bartlett et al., 2011). However, none of these studies investigated how health interventions programs are delivered to Métis. These will be explored further in the next chapter. The general lack of theoretical discussions on this poses a problem as to whether their health interventions are culturally appropriate. Also, it is likely that this might have some consequences for the health status of the Métis people in Canada.

1.2 Research purpose and research questions

Zeh et al. (2012) have argued that incorporating cultural beliefs, traditions and values into diabetes health interventions can influence patient satisfaction, improve patient outcomes and increase sustainability of the interventions. The problem, however, is that the majority of the studies on Aboriginal diabetes in Canada have been more concerned with risk factors, complications and utilization of health interventions for the disease, rather than cultural competency of health intervention programs for these minority populations. To help ensure the sustainability of the intervention programs for T2DM, there is a need for culturally competent diabetes health intervention programs, and evaluation studies on these health intervention programs. As such, the overall purpose of this study is to explore the extent to which community-level T2DM health intervention programs in Saskatoon, Saskatchewan, are being delivered to the Métis in a manner that is sensitive and appropriate to their culture. The objective of this research is to review and understand diabetes healthcare interventions for Métis. More specifically the study seeks to answer the following research questions:

- 1) What community-level diabetes healthcare intervention programs exist in Saskatoon for the Métis in Saskatchewan?

- 2) How are traditional Métis culture and historical experiences reflected in these programs?
- 3) What are the barriers/challenges to Métis diabetes healthcare programs?
- 4) What lessons may be learned from diabetes intervention programs for First Nations people; for Métis people in other provinces; for other Indigenous societies to improve practice? (Best practices).

1.3 Personal motivation and statement of positionality

My interest in conducting a study looking at how culture is integrated into healthcare, stemmed from my previous education and training. However, the reading of certain publications by some outstanding Aboriginal scholars in Canada reenergized my interest and enthusiasm in studying diabetes healthcare and culture among the Métis. In conducting social research such as this, the researcher's position in the social structure as a whole and the institutions he or she belongs to may influence the person's understanding of the world. It is therefore, argued that a researcher's position within various power structures privileges certain voices over others (Kvale & Brinkmann, 2009). Therefore, as researchers, there is a need to take cognizance of our positions relative to that of the research process.

As a young man from Ghana, trained as a geographer, who entered the Master's program in Geography and Planning at the University of Saskatchewan in September 2012, this study was conducted in a culture I was not familiar with until my arrival in Canada. Therefore, I had to familiarize myself with the Aboriginal people, specifically the Métis. To do this, I read extensively, took an introductory course in Canadian Native studies, and interacted with the community to access the local knowledge of the people and their ways of life. I also, participated in most of the intervention activities that are the focus of this study. I adopted critical reflexivity throughout conducting this research. *Critical reflexivity* involves the researcher constantly scrutinizing his or her role as a researcher in the data collection process to reflect on what has been his influence (DePoy & Gitlin, 2011). During the research process I had to constantly analyze my conduct as a researcher to see what was happening, what impacts my conduct had on ongoing social relationships, and how it was influencing the data. Even though I tried not to influence the data, my position as an African graduate student working with the Métis Nation of Saskatchewan and an immigrant, for example, may have

exerted some influence on the way some of the participants spoke about some of the issues relating to their views on being on the same program with immigrants.

1.4 Research method in brief

Although chapter three of this study provides a more detailed discussion of the research design and methodology employed in this study, this section presents a brief outline. In addressing the study's goal, objective and research questions, the strategy for this research needed to informally evaluate⁵ culturally competent healthcare intervention programs/services. Interpretive phenomenology characterized this study. Data used for this study were obtained through documentary information and in-depth interviews with selected research participants in Saskatoon. Analyses of the data obtained through the interviews included verbatim transcription of interviews, manual coding and thematic analysis. Content analysis was carried out and themes were identified to describe the lived experiences of the participants enrolled in the diabetes healthcare interventions.

1.5 The Métis people in Canada

The Métis, the focus of this study, occupy a unique and important cultural position in Canada. They are one of the three constitutionally-recognized Aboriginal groups in Canada. They are seen as descendants of the social, economic and political relations between the native people and the Europeans (Bruce et al., 2003; Martens et al., 2010). Their origins date back to the 18th and 19th centuries, as progenies of the intermarriages between the Europeans and the Indian people. While recognizing the importance of the intermarriages, the Aboriginal women and their children were not recognized as Aboriginal under the signed treaties. There exist about 300,000 people living in Canada, who self-identify as Métis (Métis National Council, 2011).

The emergence of Métis as a Nation of people is similar to the meaning of the Cree word *Wisahkotewinowak*, which translates to mean where fire has gone through and burnt everything, and new shoots germinate from the ground (Metis Centre: National Aboriginal

⁵ Formal evaluation studies as a discipline that requires specialized training and the use of specialized techniques. However, as a researcher I do not have the required training and expertise to conduct formal evaluation. Therefore, I termed this study informal evaluation.

Health Organization (NOHA), 2008). In history, Métis have been referred to as a group of people with diverse mixed ancestry. Even though there are other people who have ‘mixed blood’ ancestry such as British/Scottish-First Nations, who are now identified as Métis, there are other Métis who are of different heritage. The term was initially used in reference only to the descendants of the French and First Nations people whose forbearers once resided in the Red River area of Manitoba (Martens et al., 2010; Peterson & Brown, 1985a), prompting the debate on who actually qualifies to be Métis.

In the past, there have been discussions in Canada on who qualifies to be called Métis. These discussions have resulted in diverse definitions of who can be identified as Métis. The government of Canada has defined a Métis as a person who: (a) self identifies as Métis, (b) has ancestral connection to an historical Métis community and, (d) is accepted by a Métis community (Métis National Council, 2011; Statistics Canada, 2009). Following on this, the Métis National Council adopted a definition in 2002 in accordance with the definition by the government of Canada. The council defined a Métis as “a person who self-identifies as Métis, is of historic Métis Nation Ancestry, is distinct from other Aboriginal peoples, and who is accepted by Métis Nation” (Métis National Council, 2011). In this study, however, Métis is used to refer to a person who self identifies as a member of that ethnic group. It also means people who Métis Nation-Saskatchewan (MN-S) would help identify as a Métis and potential participant of this study.

Métis in Canada are distinct Aboriginal people with much different cultural practices and traditions from other Aboriginal groups because of their blended cultures and distinctive history that have created a unique identity (Shah et al., 2011; Waldram et al., 2006). Métis in Canada are diversified in many ways, and those in Saskatchewan have fur trade history and are scattered in different ecological zones, which influence the shaping of their culture. This indicates the need for culturally specific healthcare interventions for them that are distinct from the First Nations diabetes healthcare. However, it is not clear from the literature if such interventions have been implemented yet, and, if not, how the intervention would ideally be formulated.

As a cultural group, some, though by no means all, Métis speak a unique language called *Michif*, which is distinct from other Aboriginal languages. However, this language is falling out of use in the most urbanized Métis communities. Also it is important to note that today,

many Métis in Saskatchewan speak one or more of three Indigenous languages – Dene and Cree. This might have contributed to the gradual decline of the Michif language. In the past, Métis economies focused on a mix of food gathering such as hunting, fishing and harvesting. Historically, the main source of Métis economy was based on traditional practices such as bison or other big game hunting as well as laboring on fur brigades, in particular operating the transport boats or canoes (Peterson & Brown, 1985a). Traditional Métis diet mainly consists of local wild lake and land mammals, fish, grains and berries (Brizinski, 1993). Historically, Métis have been described with derogatory terms such as ‘black scots’, ‘mixed breeds’, and ‘bungie’, which indicates their early marginalization from the Canadian population (McNab & Ute, 2007).

In 1982, the Canadian Constitution Act was passed, for the first time granting Métis legal recognition as distinct Aboriginal people under section 35, which state that: “(1) [t]he existing [A]boriginal and treaty rights of the [A]boriginal peoples of Canada are hereby recognized and affirmed”. (2) *In this Act, the [A]boriginal peoples of Canada includes the Indian, Inuit, and Métis peoples of Canada*”. However, just as in the case with non-status First Nations people in Canada, no special rights were assigned to them at that time, other than their general recognition as Aboriginal people (Martens et al., 2010), until April, 2013 when a court ruling was handed down to recognize non-status Indians and Métis as having the same rights as status First Nations under section 91(24) of the 1867 Constitutional Act. The full implications of this decision, including with respect to health, remain to be seen.

1.5.1 Métis jurisdictions and governance

From time past, issues of jurisdiction and governance have impacted on the general life and well-being of Métis in varied ways. Unlike the status First Nations who were given some rights under the Indian Act⁶ of 1876, Métis did not enjoy any special rights under this Act (Brizinski, 1993). The administrative processes as well as services delivery to the status Aboriginal people as explicitly stated under the Act are mainly based on ‘reserves’ and ‘bands’ (Brizinski, 1993). These reserves established by the government are lands, which are demarcated for the status Aboriginal people (Brizinski, 1993; Ross & Josee, 2008).

⁶The Indian Act is an act of legislation in Canada, which defines who can be registered as an Indian (First Nation) in the Indian registry. It also outlines their rights to land and other resources and the obligations of the Crown.

Provincial governments cover healthcare costs for all people, with some funds transferred to the provinces from the federal government. However, unlike the First Nations - on reserve - where healthcare costs are directly from the federal government, there is no health transfer agreement between Métis and the federal government (Martens et al., 2010). Métis are the only Aboriginal group in Canada recognized constitutionally that do not have federally funded non-insured health assistances⁷ (National Aboriginal Health Organization, 2009). Therefore, despite being an Aboriginal group, they cannot assume the control and management of health service delivery in their communities. They are not qualified for healthcare programs and services under First Nations and Inuit Health Branch (FNIHB). The respective provincial governments and territories fund Métis health depending on where their communities are located (Canada, 2005; Health Canada, 2003). Nevertheless, there are growing signs of Métis inclusion in broader Aboriginal health structures. Health Canada, through its Population and Public Health Branch (presently Public Health Agency of Canada), manages several programs, such as the Aboriginal Diabetes Initiative (ADI), and the Canada Prenatal Nutrition Program (CPNP), targeted exclusively at all three Aboriginal groups (PHAC, 2009). As well, the year 2000 marked the establishment of the National Aboriginal Health Organization (NAHO) by some Aboriginal groups with the core mandate of “influencing and advancing the health and well-being of Aboriginal Peoples through knowledge based strategies” (National Aboriginal Health Organization, 2009). More recently, however, NAHO has been disbanded due to cuts to its operating budget by the federal government.

The Métis governance structure in Canada is represented by the Governing Members of Métis National Council. Every province is represented by their provincial group including: the Métis Nation of Ontario, the Manitoba Métis Federation, the Métis Nation-Saskatchewan, the Métis Nation of Alberta and the Métis Nation of British Columbia (Métis National Council, 2011). The leaders of the governing members of the Métis are democratically elected in each of the province, and given a specific duration of mandate. The governing members provide effective means of representing the Métis community at local national and international levels to let the views of Métis heard. The members also address the social and economic needs of their citizens by distributing programs and services in fair, transparent and

⁷ These are federally supported and transfer of control health programs and services for Inuit and First Nation people in Canada.

efficient manner. As stated earlier, the federal government of Canada currently has no declared obligation towards Métis healthcare.

However, the Métis Nation Protocol⁸ signed in September 2008 and renewed in April 2013 between the Government of Canada and the Métis National Council indicates how the council is pursuing and lobbying for finances to deliver important programs and services, such as healthcare for Métis to improve their quality of life. It is argued that this also had impact on their diabetes health status since limited funds were made available to develop effective healthcare interventions for them (Brizinski, 1993). These limitations and the unique circumstances of the Métis among the Aboriginal groups with respect to healthcare should be kept in mind as we assess the programs that are currently in place.

1.6 Structure of the thesis

This thesis consists of six chapters including this introductory chapter. In chapter two, I situate the study in the related literature around diabetes among the Aboriginal people and cultural competency of health intervention programs. I introduce the Red River cart wheel and a new framework containing cultural indicators for an informal evaluation of cultural competency of diabetes health interventions that were acknowledged in the literature. Presented in a schematic form, the framework is informed by various theories and concepts in order to understand culturally competency of health delivery. The conceptual framework establishes the research methodology for the study. Chapter three deals with methodological issues and research design for the study. Chapter four focuses on the description of community-level diabetes intervention programs and the spatial location of diabetes health intervention programs/services in Saskatoon. It also examines their spatial location in relation to the residential location of Métis. The fifth chapter deals with the results of the interview data analysis of how culture and historical experiences are integrated in the diabetes healthcare interventions. Finally chapter six contains the discussion of the findings, conclusions, and recommendations drawn from the study.

⁸ This protocol establishes a collaborative partnership and procedures for the Federal Government and the Métis Nation to discuss issues affecting the lives of Métis such as: jurisdictional issues relating to access to benefits and settlement for veterans, federal and provincial responsibilities to them and accountability of fiscal arrangement with the Government of Canada. (See; www.metisnation.ca. Accessed on September 26, 2015)

CHAPTER TWO

RELATED LITERATURE AND THEORETICAL FOCUS

The purpose of this research is to informally assess the cultural competency of existing community-level T2DM intervention programs in Saskatoon for Saskatchewan Métis people. This was done by exploring the extent to which diabetes interventions are being delivered to the Métis people in Saskatchewan, in a manner that is appropriate and sensitive to their culture. This chapter presents a critical review that focuses on studies of diabetes among Aboriginal people in Canada, especially in the Métis population. It also includes a review of studies on intervention research and cultural competency of interventions, which are fundamental to this study. Before reviewing the literature on T2DM, it is important to understand the medical perspective of diabetes mellitus.

2.1 What is Diabetes Mellitus?

The term 'Diabetes Mellitus' refers to a cluster of metabolic disorders (Dyck et al., 2012), which has complex and varied etiology, although they have some common features associated with them (PHAC, 2011). Underlying these disorders is high levels of blood glucose of the body. The body derives glucose from the daily food intake, which is produced in the liver. Under normal body conditions, an organ known as the pancreas produces insulin to help glucose to get to the body cells to be used as energy (Harch, Reeve, & Reeve, 2012; Manuel, Rosella, Tuna, Bennett, & Stukel, 2013). Being diagnosed with diabetes means that either the pancreas fails to produce enough insulin or the body cells cannot make use of the insulin produced in the body. This results in the glucose building up in the blood.

In this regard, diabetes has been categorized into several types based on the cause and the characteristics, and these types are critical for determining the treatment (PHAC, 2011). The first type of diabetes is type 1 diabetes mellitus, also known as insulin dependent diabetes, in which the pancreas fails to produce insulin resulting in deficiency in insulin secretion in the body. This type of diabetes is typically diagnosed early in childhood. People living with this diabetes rely on insulin shot or pumps to keep their glucose levels from getting too high (Bhattacharyya, Esler, et al., 2011; PHAC, 2011). The next type of diabetes, gestational diabetes, also known as pregnancy induced diabetes, occurs in pregnant women who were previously not diagnosed with diabetes before their pregnancy. Lega, Ross, Zhong and

Dasgupta (2011) emphasize that it occurs as a result of temporary decrease in glucose tolerance levels in the body as a result of pregnancy. However, it has been established by researchers that this type of diabetes also poses as a risk factor for the development of T2DM for the mother or fetus (later child or both) (Ben-Haroush, Yogev, & Hod, 2004; Bruce, 2000; Dyck, Karunanayake, et al., 2013; Dyck et al., 2012). The final type of diabetes occurs when the pancreas produces insulin, but the body cells are not able to use it properly. This is T2DM, also known as non-insulin dependent diabetes⁹. Formerly, a distinguishing characteristic between type 1 diabetes (once called juvenile diabetes) and T2DM was that the latter was almost exclusively a disease of old age (Vallis, 2012). In recent decades cases of early onset diabetes have been increasingly common, particularly in some Aboriginal populations. For instance, in Sandy Lake researchers found cases of children as young as eight affected by Type 2 diabetes, and noted that this had considerable implications for interventions (Ley et al., 2008). PHAC (2011) and Shaw et al. (2010) have estimated that 5% - 10% of people living with diabetes today have type 1 diabetes. The rest are affected by T2DM. As this is the type of diabetes against which intervention programs in the communities are mostly targeted, this study focused on T2DM.

2.1.1 The origin of diabetes among Aboriginal populations

Diabetes among the Aboriginal people, although now epidemic in many communities, has been with them for decades. Several attempts have been made to explain the origin of the disease in the Aboriginal population. However, no definitive explanation has been offered for the emergence of this epidemic among Aboriginal Canadians, though researchers have pointed to environmental factors and cultural change as a result of colonization. Of these, cultural change is perhaps the most frequently cited as the factor explaining the origin of diabetes among Aboriginal people (see Bartlett, 2003; Peterson & Brown, 1985a).

The first serious discussion and analyses of diabetes among native people in North America was by West (1974). He concluded that diabetes was relatively rare among the native North American populations before World War II (see also Cohen, 1954), and was seen as rare in Canada at the time he was writing. It is speculated that sometime thereafter the disease

⁹ For the purposes of this thesis, "diabetes" is used to refer to T2DM.

increased in prevalence in the Canadian Aboriginal population, likely during the 1970s (Young, Reading, et al., 2000). It is believed that the arrival of the Europeans into Canada led to the Aboriginal people having extensive contact with western civilization. This subsequently led to cultural change (changes in lifestyle, diet and other forms of traditional activities) of the Aboriginal people in favor of more European lifestyle (Jackson, 1994; Schraer, 1994). It is believed that the early contact may have set things in play earlier but that there was a delay, in some cases for centuries, before the explosion of diabetes. Therefore, diabetes can be termed as a disease of colonialism¹⁰ but of more modern aspects of colonialism (post Second World War) (Jackson, 1994).

The process of colonization by the Europeans settlers and subsequent governments was tied to the signing of treaties, landlessness (displacement from ancestral lands), and the establishment of residential school system had impact on the health of Aboriginal people. It is believed that these historical factors mediate through each other to have an impact on Métis health today (Metis Centre: National Aboriginal Health Organization (NOHA), 2008). Increasingly, health research indicates that inequitable differences in contemporary disease rates and most social risk behaviors exhibited in Aboriginal populations may be associated with the long term effects of colonization (Bartlett, 2003; Bartlett et al., 2010). A number of studies on Métis living in rural and urban communities (example Bruce, 2000a; Bruce, 2000l; Bruce et al., 2003) confirm this, suggesting that the decline in the traditional food gathering methods, subsequently leading to dietary change and the consumption of greater amounts of western foods, was due to the impact of western civilization and cultural change. The result of this was a reduction in the quality of Métis health.

Jackson (1994) investigated cultural change among the Aboriginal people and concluded that the arrival of the Europeans also triggered competition for land, forced relocation of the Aboriginal people and, through the various treaties which came with it, impacted significantly on Aboriginal culture. These forced the native people onto marginal lands ill-suited for traditional pursuits, and, as a consequence, to adopt processed and less nutritional foods over healthier bush foods, leading to poor nutrition. This, in turn, played a role in developing obesity and, ultimately, chronic degenerative diseases like diabetes (Garro, 1996;

¹⁰ A practice by which control is exerted over an Indigenous population by an external, or settler, population, through the introduction of their culture, economic activities, political, social and other means.

Young, Reading, et al., 2000). Such forced cultural change also encouraged a more sedentary lifestyle, as Aboriginal people abandoned their traditional economies and communities. This process appears to have accelerated following the Second World War (Brizinski, 1993).

2.1.2 Diabetes among the Métis people

Currently, the prevalence of diabetes among Aboriginal people in Canada is considered as one of the highest in the world (PHAC, 2011), a situation some authors have described as an emerging epidemic (Dyck et al., 2010; Young, Reading, et al., 2000). The occurrence of diabetes among the Aboriginal people in Canada differs between and within the three Aboriginal groups namely First Nations, Métis and Inuit (PHAC, 2011).

The Métis people represent the second largest group of Aboriginal people in Canada, and the high prevalence of diabetes among these people render them at high risk of diabetes complications (Métis National Council, 2006; Shah et al., 2011). This has contributed to excess morbidity and mortality among their population (Bruce, 2000a, 2000l; Shah et al., 2011). Nationally, the prevalence of diabetes among the Métis in Canada is similar to other Aboriginal groups, more than double the rate in the non-Aboriginal Canadians (Bruce et al., 2003). Nevertheless, both current and past statistics on Métis diabetes are lacking as, unlike the case with First Nations people, few studies have been conducted on Métis. In Canada, most of the literature focusing specifically on Métis has generally placed emphasis on their historical evolution as a political or cultural group rather than on the state of their health (Brizinski, 1993). Indeed, Young (2003) concluded that issues concerning Métis health are generally under-studied in Canada, compared with the other Indigenous Canadian populations (see also Martens et al., 2010). However, this has not changed much in the ensuing decade. Therefore, there remain considerable opportunities and the need for added Métis health research.

Most of the health related Métis research (example Bartlett et al., 2010; Kumar et al., 2012; Martens et al., 2010) has been carried out in Manitoba. Subsequently, one of the most comprehensive population-based study reports in Manitoba (also known as Métis Atlas) (Martens et al., 2010) found higher diabetes rates, among other diseases, compared to the general population. It also found that Métis tended to have more comorbid conditions associated with diabetes and thus higher disease burden.

There is evidence that diabetes has existed for years among Métis in Canada (Bruce et al., 2003). The first detailed analysis of the impact of diabetes among self-identified Métis in Canada is that by Bruce (2000a) using data from the 1991 Aboriginal Peoples Survey. In that study the prevalence of diabetes among Métis was 32% for those aged 50 – 64 and 55% for those aged 65 and older (Martens et al., 2010). She indicated that Métis with diabetes exhibit symptoms, which reflect the severity of the disease. She further observed that the prevalence rate of diabetes among Métis in Canada differs among and within the provinces of Canada (Manitoba, Saskatchewan and Alberta).

A study (Bartlett et al., 2010) noted that diabetes has been a major health problem among Métis. Therefore, healthcare interventions have been formulated for Métis living with diabetes. However, diabetes healthcare interventions for Métis in Canada have not been extensively researched. The diabetes healthcare utilization by Métis in Manitoba indicated that Métis living with diabetes increasingly access medical and community-level healthcare to minimize the complications associated with the disease (Bartlett et al., 2010). Further, other research found no Métis specific diabetes healthcare interventions (Kumar et al., 2012; Martens et al., 2011). This suggests that Métis were generally accessing interventions that were not formulated specifically for them. In addition, there are no studies on how these healthcare programs/ services are being delivered to tackle the risk factors of diabetes.

2.1.3 Diabetes risk factors

A number of Métis diabetes risk factors have been explored by different studies (example Bruce, 2000a; Bruce, 2000l; Bruce et al., 2003). Bruce (2000l) identified risk factors such as age, obesity due to lack of physical activities, gestational diabetes, environment, lower socio-economic status, and genetic factors, such as parental diabetes and Aboriginal ancestry as possible contributors to the increased risk of contracting diabetes among Métis. While these factors may be treated in isolation, it has also been argued that most of these factors are triggered by the impact of changes to traditional Aboriginal cultures (Bartlett, 2003). Of the studies that analyzed the risk factors of diabetes among the Métis, there is a general consensus that cultural change and lower standard of living (poverty) are the main underlying contributing factors to developing the disease. For instance, Shah et al. (2011) report that the westernization of the Aboriginal people partly explains the current levels of chronic diseases among their communities, although this is not pervasive as among the First Nations

population. Similarly, Bartlett (2003) and Bruce (2000) contend that colonization, through the processes of *acculturation, assimilation and integration*, led to the segregation /separation and the marginalization of the Aboriginal people. For instance, policies such as the assimilation had immediate and devastating impact on Aboriginal people, especially the Métis people, damaging their collective as well as individual worth. Even though all the groups experience colonization, the experience of Métis was different from the others, because they were denigrated and sometimes treated as a health risk. It is believed that colonial policies rendered many Métis economically disadvantaged.

Environmental factors have also been implicated in the recent rise of diabetes among the Aboriginal people of Canada. Linked to cultural changes, some researchers (example Dyck, Harris, Bhattacharyya, & Naqshbandi, 2013; Sharp, 2009) suggest that there is a close link between environmental factors such as poverty and colonization of the Aboriginal people. Colonialism in the long term resulted in the destruction of Aboriginal peoples' connection with the land and environment. Colonial policies and practices created the Métis Nation as a nation with no legal land entitlements, rights and identity. Therefore, Métis have effectively been relegated to the margins of Canadian society. For instance, the land negotiations between Red River Métis peoples and the government of Canada resulted in the creation of the province of Manitoba in 1870 through the Manitoba Act (Aboriginal Healing Foundation, 2006; Dorion & Prefontaine, 2003). It was agreed that Métis who occupied the land prior to the Act would retain their rights to their land. However, after the Act came into force, the government initiated measures to reclaim the land from the Métis (Dorion & Prefontaine, 2003). Presently in Canada, governments and individuals other than the Métis people have exclusive control over several culturally significant areas notable for traditional activities such fishing, hunting, trapping and farming (Bartlett, 2003; Brizinski, 1993). In fact, today many Métis people in western Canada reside at places other than their original place of residence, which has affected their health (Bruce et al., 2003).

Poverty has been linked to environmental factors and colonialism. The colonization of the Métis people led to limited rights and low participation in the formal economy. Most Métis did not attend residential schools or, indeed, have any formal education. This discrimination was further reinforced through the labeling of Métis children as a health risk, thereby preventing them from attending public schools (Aboriginal Healing Foundation, 2006). This resulted in high levels of illiteracy and limited economic opportunities, leading many Métis

to deny their identity. As a consequence, Métis have suffered from poverty-related issues such as malnutrition and inadequate housing. While environmental factors play a role in excess risk of T2DM among Canada's Aboriginal people, it is evident from the timing of the current epidemic that culture and lifestyle change served, at the very least, as the trigger for the rise of the disease.

Also, many authors have assumed that T2DM is largely a disease of advanced age (Cohen, 1954; Jackson, 1994), and it has long been observed that diabetes prevalence increases with age. This belief was once reflected in the fact that it was also called adult onset diabetes (Rull et al., 2005). This conclusion is consistent with studies conducted on Métis (example Bruce, 2000a; Bruce et al., 2003; Shah et al., 2011) suggesting that age is a good predictor of diabetes among the Métis people. Bruce (2000) also found that risk is also greater among Métis women than men. Indeed, findings by Adhikari and Sanou (2012) suggest that Métis women are at higher risk than men because men engage in physically demanding jobs such as agriculture and construction, whereas, women are generally seen to be engaging in sedentary lifestyle and desk jobs which demands less physical activity. Also, Bruce noted that this may be due to reporting bias, as some women are more likely to visit physicians on a regular basis than men (Bruce, 2000), increasing the likelihood of diagnosis.

However, recent studies have contested the explanations above. Indeed, recent research suggests that Aboriginal people experience metabolic disorders such as diabetes at earlier age than the overall population. These studies are increasingly finding younger cases of diabetes among Aboriginal people, particularly compared to the non-Aboriginal population (Dyck, Karunanayake, et al., 2013; Dyck et al., 2012; Oster, Johnson, Balko, Svenson, & Toth, 2012; Oster et al., 2011). In some cases First Nations and Métis children as young as eight years old have developed the disease, and pre-teen cases are becoming increasingly common (Amed et al., 2010; Dean, Mundy, & Moffatt, 1992; Pacaud et al., 2007; Young, Martens, Taback, & et al., 2002). However, one of the studies conducted in Manitoba revealed that most the children studied had family history of diabetes and obesity. At least one of the parents had diabetes (Dean et al., 1992).

High Body Mass Index (BMI) of Aboriginal people has also been found to have a strong association with increased risk of developing T2DM at least at the population level (Bruce, 2000). This finding is consistent with other studies (example Denny, Holtzman, Goins, &

Croft, 2005; Hanley et al., 2003; C. Wilson, Gilliland, Moore, & Acton, 2007), suggesting that there is evidence to support the association between higher rates of obesity and the increased risk of diabetes among Métis and other Aboriginal people. This factor has been explained through the growing levels of obesity among the Aboriginal population, due to the lack of physical activities and unhealthy food choices in their communities (Dyck, Karunanayake, et al., 2013). Further, high prevalence of obesity in children has been identified as a significant predictor of both glucose and insulin free irrespective of their age. Obese children have a high risk of being diagnosed with diabetes (Young, Dean, Flett, & Wood-Steiman, 2000).

Furthermore, Gestational Diabetes Mellitus (GDM) also plays a role in how diabetes emerges in Métis women (Bartlett et al., 2010), and other women in general (Dyck, 2005). Therefore, linking this to age as a risk factor, Ghosh and Gomes (2011), reiterated that when women of various age groups are compared, older pregnant Aboriginal women, have higher risk of developing GDM, than younger pregnant Aboriginal women.

Genetic factors explained by Aboriginal ancestry have also been implicated in the recent rise of diabetes. It is argued that the high rates of diabetes among Aboriginal people in general are due to multiple inherent risk factors which leave Aboriginal people at the risk of developing the disease (Young, 1993). Nevertheless, many authors have contested the genetic predisposition argument explained by Aboriginal ancestry (Howard, 2014; Knibbs & Sly, 2014). Deeming it speculative, they argue instead from a political or economic standpoint in which they question the motivation for ascribing elevated diabetes rates to inherent risk factors. They argue further that there is no clinically proven study to back the genetic argument. In their view laying blame on genetic susceptibility would obviate the need for costly interventions developed around social, environmental and economic risk factors, thereby removing both economic and moral responsibility from the federal government and the healthcare system.

Additionally, some studies (example C. Reading & Wien, 2013) identified *indirect* risk factors to diabetes among the Aboriginal people such as unemployment, education, and income among others. However, these factors are seen as *direct* effects of acculturation. These factors are known as the social determinants of health, which impacts on Aboriginal health across a life course (AFN, 2005; C. Reading & Wien, 2013). These social

determinants of health influence health behaviors, health management, and health vulnerabilities. Therefore, communities and individuals “that experience inequalities in the social determinants of health not only carry an additional burden of health problems, but are often ... [prevented from accessing] ... resources that might ameliorate problems” (C. Reading & Wien, 2013, p. 7). These social determinants of health impact differently on groups of people. For instance, among the Aboriginal people, colonization and the imposition of colonial control and the subsequent disruptions in their culture and lifestyle to greater extent explain the impact some of these determinants have on their health. This points to the importance of recognizing Aboriginal-specific social determinants of health as key factors in intervention design.

2.1.4 Métis perspectives of health and well-being

Culture has been identified as one of the social determinants of health by Public Health Agency of Canada, and it is represented in other Indigenous frameworks such as the First Nation holistic policy and planning and Métis River cart wheel model for health and well-being (Métis Nation of Saskatchewan, 2012; J. L. Reading, Kmetz, & Gideon, 2007). For the Métis as well as other Aboriginal groups such as the First Nations people, health is seen as embracing holistic perspective of being healthy. It takes into account physical spiritual, cultural, and emotional well-being (Richmond & Ross, 2009). Hart (2010) opines that the ability to incorporate traditional practices like songs, and dance into healthcare ensures culture continuity¹¹, and health and well-being. From this, Kumar et al. (2012) argue that these cultural values can help improve public health problems, such as suicide and diabetes among Aboriginal peoples.

Other authors (example King, Smith, & Gracey, 2009; J. L. Reading et al., 2007) observe the importance of cultural continuity as a health determinant. Among the Métis people, any disruption in their cultural continuity is seen as a loss of their sense of belonging (identity loss), which can impact negatively on their health and well-being (Métis National Council, 2006). Additionally, there is evidence that culture provides a unique opportunity for health practitioners to understand and identify the pathogenesis of T2DM among Aboriginal populations (Bartlett et al., 2010), because of the colonial and historical explanations

¹¹ The ability of a cultural group to maintain their cultural practices and traditional values over time.

underlying culture as a social determinant of Métis health.

Ho and his colleagues have observed that culture as a social determinant of health plays an important role in health status of the Aboriginal people (Ho et al., 2006). Therefore, culture has been identified as one of the useful ways to address Aboriginal health problems (Beach et al., 2005; National Aboriginal Health Organization, 2009; Tripp-Reimer et al., 2001). Other authors have aptly summarized that it is relatively easier to incorporate Indigenous people's culture into public health interventions to achieve better patient outcomes (Jones, Man, Ridout, Hepburn, & Gable, 2012). The points discussed in this section are especially important because Aboriginal culture was disrupted as a consequence of colonization.

2.2 Approaches to Aboriginal diabetes research

Diabetes has a multifaceted etiology. This explains the number of studies from different disciplines (social sciences, and biological sciences) into diabetes among the Aboriginal people in Canada (example Dyck et al., 2010; Green, Blanchard, Young, & Griffith, 2003; Young, Reading, et al., 2000). These studies have looked at diabetes from different methodological perspectives. Some authors have looked at diabetes employing qualitative approaches, mainly case study and grounded theory (Macaulay et al., 2003), in order to characterize socio-cultural factors of the disease and experiences of people with diabetes. Other authors (example Garro, 1995; Garro, 1996) have used data from secondary sources to study prevalence and determinants, impact and extent of the diabetes problem.

The epidemiology, risk factors and the health facilities utilization diabetes have been studied by many authors (example Bartlett, Iwasaki, Gottlieb, Hall, & Mannell, 2007; Bartlett et al., 2010; Dyck, Klomp, Tan, Turnell, & Boctor, 2002; Dyck et al., 2010; Dyck et al., 1998), using mainly health records and other secondary sources for statistical analysis. However, most of these studies did not employ primary data (data collected in the field for the purpose of a study, for which it is used).

Also, none of these studies have explored the cultural competency of diabetes health intervention programs for Aboriginal people in Canada using phenomenology, which this study seeks to do. A search through the Aboriginal diabetes literature revealed that no studies

have been done previously on informal assessment of cultural competency in diabetes healthcare intervention programs for Métis people in Saskatchewan.

2.3 What are program evaluation studies?

Program evaluation is defined as “systematic collection of information about activities, characteristics and outcomes of program effectiveness, using defined guidelines to inform decision about future program development” (CIHR, 2008). It has been explained as making judgments about the value or importance of something. Other scholars have likened evaluation research to measurement (Brathwaite & Majumdar, 2006). In addition, researchers conduct program evaluations in accordance with precise guidelines or protocols, which are systematic and consistent, such that it can be replicated elsewhere for comparison of outcomes. Evaluation aids researchers to develop the best and most efficient possible programs, make changes when needed, as well as to monitor the progress being made towards achieving their objectives (SPHERU, 2009). Similarly, the evaluation of cultural competency of healthcare intervention programs should assess the extent to which culture is incorporated into healthcare programs/ services for sustainability and meeting its long-term objectives.

Hawe and Potvin (2009) concludes that all the evaluation studies carried out in population health research/ studies can be classified as intervention research, however, not all of the population health intervention research can be classified as evaluation research. Therefore, I agree with Frankish (2012) that evaluation and population intervention research involves the use of similar methods but are not the same. This is because evaluation studies, as a discipline, compared to intervention research, require specialized training and the use of specialized techniques. This study is an informal evaluation research in that it uses specific criteria to assess the cultural competency of T2DM healthcare intervention programs. However, as a researcher I do not have the required training and expertise to conduct a formal evaluation of the interventions studied.

2.4 What is community?

There are many ways to think about the concept of community. The concept has been defined from different perspectives, geographic, social, systems, virtual, depending on the topic under

discussion (Rusch, Frazier, & Atkins, 2014). The proponents of the systems perspective have likened community to a living creature comprising of multiple parts with specialized functions to make it complete (Castleden, Morgan, & Lamb, 2012). Communities have often been conceived as small in size (of both area and numbers of individual) with strong territorial attachments of its members.

However, some authors have criticized the notions and understanding of community as a small spatial unit, as a homogenous social structure, or as a set of common interest and shared norms, on the grounds that these notions fail to acknowledge the enormous differences such as the power relations and economic inequalities. It has been argued that there exist a range of social relations and social dynamics that transcend the spatial boundaries of communities (Castleden, Mulrennan, & Godlewska, 2012). This notwithstanding, in this thesis, “community” is defined as a social unit of any size with a group of members interacting with one another, sharing common characteristics and a sense of identity.

2.5 Cultural competency and healthcare interventions

Many authors in different contexts have defined culture. For example, Brach and Fraserirector (2000, p. 180) define culture as “integrated patterns of behavior that includes thoughts, communication, actions, customs, beliefs, values and institutions of racial, ethnic, religious or social group”. In addition, culture is said to be ‘dynamic, shared, symbolic, learned and integrated’ beliefs and norms of a group (L. M. Anderson et al., 2003; Zeh et al., 2012). It is argued that culture has several impacts on the activities of society, and consist of collective features such as language, ethnicity, norms and gender roles (Dunn, 2002), which defines the belongingness of people. In this study, culture will be referred to mean issues relating to ethnicity, however, the term can be applied to others such as people with disability and sexual orientation (Cross, Bazron, Dennis, & Isaacs, 1989; Lie et al., 2011).

The relevance of cultural competency to current healthcare interventions has led to a burgeoning of definitions of the concept, which are often anchored around culture. To this, many authors (example Stewart, 2006; Tervalon & Murray-Garcia, 1998; Zeh et al., 2012) and organizations (example National Aboriginal Health Organization, 2009), have explained cultural competency of healthcare differently. Barlow et al. (2008, p. 2), for example, indicate that cultural competency seeks to integrate “cultural identity [encompassing] history, values, customs and beliefs” into healthcare. Similarly, Zeh et al. (2012) suggest that it is about

integrating cultural practices and traditions to ensure that healthcare interventions produced are appropriate and sensitive to the culture of the targeted population (see also Beach et al., 2005).

However, some authors have tied culturally competent healthcare to the ability of healthcare practitioners to work within a particular cultural group. Campinha-Bacote (1999, p. 204), for example, defines cultural competence of healthcare interventions as “[t]he process in which the healthcare practitioners continuously strives to achieve the ability to effectively work within the cultural context of [patient] clients [family, individual or community]”. The importance of cultural competency of healthcare is centered on ensuring that the processes used in carrying out healthcare for minority populations are not only respectful, but are also culturally sensitive (Saha et al., 2013).

Many scholars (example Airhihenbuwa, Ford, & Iwelunmor, 2014; Petroulias, Groesbeck, & Wilson, 2013) have established that cultural beliefs and traditions of people shape the understandings of, and how they respond to, health and diseases, because the meanings ascribed to them vary across different cultural groups. The cultural beliefs people hold influence their health as well as their health seeking behavior. Therefore, cultural beliefs may contribute to health risks among populations. For instance, in some cultures seeking healthcare when you are not sick is seen as a luxury. Therefore, chronic diseases such as diabetes, which can have symptoms that are not always readily identifiable, could have people from those cultures foregoing treatment until the disease is well advanced or out of control. It may be that people from such cultures will only seek out treatment when the disease begins to interfere with their normal everyday activities (Tripp-Reimer et al., 2001).

Slean et al. (2012) state that culturally competent healthcare interventions adopt traditions, customs and the beliefs of the community where the intervention is being carried out. They argued further that it offers healthcare practitioners the opportunity to use traditional learning styles/approaches to deliver health messages, such as using stories to deliver health messages to the Métis people who have strong oral tradition (Métis Nation of Saskatchewan, 2012). This provides an opportunity for them to understand and to be ready to tell their stories. Tripp-Reimer et al. (2001) argue that in cultures which have robust oral traditions, approaches such as storytelling and talking circles have proved to be superior to other methods used to deliver health messages.

In addition to an intervention adopting traditional learning approaches, the educational materials should be language appropriate. It is argued that culturally competent healthcare should include training for healthcare practitioners “to use of linguistically and culturally appropriate health educational materials and activities organized around culture” (L. M. Anderson et al., 2003, p. 70). Tripp-Reimer et al. (2001) contend that, culturally competent diabetes health educational materials should be sensitive to the language, traditional beliefs, and practices.

Many authors have emphasized the importance of local language in healthcare (L. M. Anderson et al., 2003; Zeh et al., 2012). In Zeh et al.’s (2012) view, in a situation where healthcare practitioners are not proficient in the language of their client patients, there is the possibility for miscommunication if the healthcare practitioners and the patients speak different language, and miscommunication has numerous consequences for healthcare service delivery. It is argued that miscommunication could lead to improper diagnosis or treatment procedures (L. M. Anderson et al., 2003). Therefore, healthcare practitioners should communicate effectively with patients in a language patients understand. Ideally effective communication should be in the same language. When this is not possible, qualified interpreters should be used (Bhattacharyya, Esler, et al., 2011; McKennitt & Currie, 2012). However, Zeh et al. (2012) have argued that, the use of interpreters raise questions concerning patients’ right to confidentiality and privacy to sensitive issues.

Lastly, food is an essential aspect of culture used in different religious and social events. Zeh et al. (2012) contend that in every culture, traditional foods are seen as a means of staying healthy and preventing illness. Food preferences, as a cultural indicator, affect the diabetes health status of people (Hui, Sevenhuysen, Harvey, & Salamon, 2014). Many scholars (example Cargo et al., 2011; Ho et al., 2006) have argued that ensuring constant supply of culturally-appropriate foods to people as part of diabetes healthcare intervention not only ensures food security, but also encourages participation. In a similar vein, the absence of appropriate food is likely to discourage participants from patronizing the intervention.

The origin of the call for debate on culturally competent healthcare dates back to the 1980s, when it was increasingly used by nurses and other health practitioners to enable them to provide appropriate and effective healthcare to people from the minority cultural groups, who were increasingly experiencing poor health outcomes compared to their counterparts in the

general population (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003; Brach & Fraserirector, 2000). Over the past two decades, the concept has gained popularity among healthcare delivery experts in many countries with high Indigenous and immigrant populations such as United States of America, New Zealand, Australia, and Canada (Zeh et al., 2012). Some healthcare practitioners and scholars (example; Barlow et al., 2008; Birch et al., 2009) have acknowledged that cultural and linguistic barriers existing between healthcare practitioners and patients clients might interfere with the effective delivery of health services (see also L. M. Anderson et al., 2003; Lie et al., 2011). With time, increased advocacy for consideration of these barriers into healthcare interventions has contributed to the demand for healthcare programs and services to incorporate the major features of cultural competence and sensitivity (Ahmann, 2002; Betancourt et al., 2003).

Airhihenbuwa, Ford, and Iwelunmor (2014) contend that inefficiencies in the healthcare delivery to minority populations is linked to growing health disparities. Therefore, there is the need for healthcare interventions that are appropriate and sensitive to the culture of the clients. Such healthcare programs and services are mainly targeted at people who are in the minority population (Saha, Beach, & Cooper, 2008), and sought to close the cultural gap between the mainstream healthcare practices and the customs of the different minority populations (L. M. Anderson et al., 2003; Tripp-Reimer et al., 2001).

Stewart (2006) explains that the growing need for culturally competent healthcare is partly as a result of the experiences many minority populations have with the mainstream healthcare systems. Most often, these experiences have been undesirable due to the cultural variations. Cultural mix-ups between patients and healthcare practitioners most often deter people in minority populations from accessing and receiving care (Barlow et al., 2008). Therefore, inability of healthcare practitioners to recognize the cultural differences existing between the minority and the general populations have partly accounted for the increasing hesitancy and noncompliance on the part of the minority population to patronize the mainstream healthcare services, even though some members of the population may require such services urgently (Suh, 2004). Ahmann (2002) contends that this may be attributed to fear, estrangement, and irreverence. She continues to argue that these differences in healthcare provision when unaddressed partly explain the poor health outcomes within minority populations, for example, the Aboriginal populations in Canada.

As Campinha-Bacote (2005) and Dunn (2002) argue, culturally competent healthcare interventions are aimed at ensuring that minority populations are not discriminated against, when accessing healthcare services. Other scholars of cultural competency of healthcare (example Ahmann, 2002; Dunn, 2002; Zeh et al., 2012) argue that there is the need for equity in healthcare service delivery to satisfy the health needs of patient clients, therefore, the need for culturally competent healthcare interventions. Furthermore, Anderson et al. (1998) note that healthcare services that are sensitive to the beliefs, traditions and history of people have the potential of better responding to the health needs of its clients. Therefore, cultural competency of healthcare emerged as a response to the need for healthcare providers to meet the needs of specific populations, and as a means to developing a practical framework to address the numerous problems of ethnic differences in healthcare intervention delivery (Betancourt et al., 2003). As Brach and Fraserirector (2000) note, today many healthcare interventions for minority groups are being developed to suit the culture of the target population.

Ahmann (2002) has argued for the concept of *cultural safety* as the end product of culturally competent healthcare. The author suggests that incorporating culture and historical experiences into public health and healthcare programs and services implies creating culturally ‘safe places’ for the targeted minority group to conveniently access healthcare. The concept was first introduced in New Zealand as a response to ongoing concern over the consequences of colonialism and perpetuation of health inequities from neo-colonial processes that ignored the beliefs of the Maori people and instead privileged that dominant *Pakeha* philosophies (National Aboriginal Health Organization, 2009). Since that time, cultural safety has been adopted throughout the world. In Canada, the healthcare system is based on the Euro-Canadian culture that may not meet specific need of minority populations such as the Métis. The concept has been introduced into some healthcare interventions for some Aboriginal groups such as those in Sandy Lake to provide culturally safe environment when providing healthcare to patients.

For Métis living with diabetes, creating culturally safe diabetes healthcare constitute processes involving specific actions to adjust healthcare services to the needs and preferences of the Métis culture (Métis Nation of Saskatchewan, 2012; Métis National Council, 2006). It has been argued that cultural safety includes cultural awareness and progress through cultural sensitivity (National Aboriginal Health Organization, 2009). The general goal here is to offer

healthcare interventions, which ensures dignity and respect of the Métis people. Therefore, culturally safe healthcare is comprised of elements required of healthcare intervention programs to provide services that are recognized as appropriate, safe and respectful to the culture of a culturally distinct population (Campinha-Bacote, 2002; Wendt & Gone, 2012). It is to ensure that participants feel protected from discrimination in the healthcare setting. Drawing from this, it has argued that the cultural competence and cultural safety could be used interchangeably (National Aboriginal Health Organization, 2009).

Some authors, mostly from the nursing field (example Campinha-Bacote, 2002; Dunn, 2002; Lie et al., 2011), have conducted studies into cultural competence of healthcare, and have proposed models and frameworks to understanding cultural competency of healthcare. However, the use of such conceptual frameworks in guiding studies on cultural competency of healthcare interventions has been limited to date, notwithstanding, the positive signs of increasing reliance on conceptual frameworks in the field of evaluation studies (see Brach & Fraserirector, 2000; Campinha-Bacote, 2002). Moreover, I would describe these frameworks as narrowly focused, since they emphasize assessing the cultural competency of healthcare practitioners instead of the healthcare intervention as a whole. For example, Campinha-Bacote (2002) and Petroulias, Groesbeck, and Wilson (2013) determined cultural competency of health intervention by using five constructs needed to become culturally competent such cultural *awareness*, *knowledge*, *encounters*, *desire* and *skills* of culture.

Cultural *awareness* is described as recognizing that people are shaped by their culture and in turn, shape it. It recognizes the tendency for people to impose their values and beliefs on the other persons. Therefore, health interventions should, wherever feasible, employ workers from the cultural group for whom an intervention was developed. Cultural *knowledge* is fundamentally similar to cultural aspirations, and involves obtaining educational foundations about an ethnic group (Petroulias et al., 2013). A healthcare practitioner can, for example, be equipped with knowledge on health-associated beliefs and cultural values. Related to this is cultural *encounter*, which is the ability of health practitioners to interact with patient clients through cultural *skills* (see Campinha-Bacote, 1999). It involves the ability of an intervention to communicate effectively in a manner that is culturally acceptable to the cultural group. Lastly, underlying all these constructs is cultural *desire*, which can be interpreted as cultural aspiration. This is the intent of health practitioners to “become culturally aware, skillful, familiar...and the desire to improve communication [with patient clients]” (Petroulias et al.,

2013, p. 113). In this study, I developed a ‘holistic’ framework to assess culturally competent diabetes intervention programs/services.

2.5.1 Cultural competency of healthcare in Canada

In Canada, incorporating culture into healthcare has become necessary for several reasons. The growing Aboriginal population and the problems associated with mainstream healthcare services, partly explains the increasing concerns for culturally appropriate healthcare in Canada (CIHR, 2008). For example, some Aboriginal people have criticized western healthcare as being imperialist and colonially motivated (Turton, 1997). Secondly, the growing immigrant population has contributed to the growth of the Canadian population consisting of people from varied ethnic backgrounds (Birch et al., 2009; Brach & Fraserirector, 2000). Whereas people who migrated to Canada from the 1950s to the late 1960s were mainly from European countries, fresh immigrants in the country are mainly from Africa and Asia (Lie et al., 2011; McKennitt & Currie, 2012; Zeh et al., 2012), thus increasing the cultural diversity of people in the country and increasing the need for culturally competent healthcare for these populations.

Also, the *Canadian Multicultural Policy* and the *Multicultural Act*, adopted in 1988 encourages full participation of people in every aspect of life in the society (Olavaria et al., 2005). Additionally, the *Canadian Charter of Rights and Freedom* allows people from different ethnic backgrounds access to culturally competent services, based on the principles of equity and non-discrimination (Birch et al., 2009). Therefore, there have been calls for the development of healthcare interventions, which meet their cultural needs.

It is, however, noted that the Canadian literature on cultural competency lags behind compared to the United States (Olavaria et al., 2005; PHAC, 2004). As Lie et al. (2011) observed, there is a scarcity of high quality research evaluating the cultural competency of major health intervention programs for minority populations. This conclusion made by these authors reinforces the need for studies to be conducted into cultural competency of health interventions (programs and services) in Canada.

2.5.2 Challenges to culturally competent healthcare

Despite the fact that a number of community-level culturally competent diabetes healthcare interventions have existed in many communities for some time, they have faced considerable challenges in promoting care and control for diabetes. In the literature, these challenges include, but are not restricted to, specific social determinants of health that affect individual members of community, socio-cultural and institutional factors which affect community-level healthcare interventions for minority populations

The dire level of poverty among urban populations has been identified as a threat to effective diabetes healthcare (Bhojani et al., 2013). Financial constraints have been one of the dominant reasons for negative health behavior by Aboriginal people (Eggington, 2012). Bhojani et al. (2013) found that poor diabetic patients often hesitate to ask detailed questions about their diabetic conditions and how to manage the disease effectively. Urban poverty has been associated with deepening inaccessibility of healthcare programs and services. It is argued that poor patient clients may live a distance from healthcare interventions. They may also not have the transport options that others with more money have (Tripp-Reimer et al., 2001). Lastly, urban poverty has been connected to homelessness, which also impacts on diabetes healthcare. The stigma attached to people who are homeless can discourage people seeking effective health services (Davachi & Ferrari, 2012).

There are also some common socio-cultural challenges to community-level culturally competent diabetes healthcare interventions outlined in the literature. They include non-compliance to healthcare because of the lack of culturally-appropriate indicators, such as food and other traditional practices, to the interventions (Chang, Yang, & Kuo, 2013; Ho et al., 2006). This is often intensified by other factors such as physical distance (geographic accessibility) of a patient to an intervention (Bhojani et al., 2013; Cabellero & Tenzer, 2007). Bhojani et al. (2013) studied barriers to access to diabetes healthcare in Southern India, and concluded that the utilization of healthcare interventions to a greater extent depends on, among other things, the geographic accessibility to that intervention on the part of the clients. Further, the lack of proximity to diabetes healthcare intervention is considered as a barrier in many communities facing diabetes (Davachi & Ferrari, 2012; Haase et al., 2008; Soewondo, Ferrario, & Tahapary, 2013). However, in the case of Métis in Saskatchewan the impact of accessibility is not readily clear.

Some authors (example Howard, 2014; Loopstra & Tarasuk, 2013) have noted that culturally competent healthcare for minority populations is beset with the problems of financial sustainability, especially for the Métis whose healthcare costs are mainly unevenly financed by the provincial governments (Frusti, Niesen, & Campion, 2003). Soewondo, Ferrario, and Tahapary (2013) found a lack of funding opportunities for developing culturally appropriate diabetes healthcare. In a similar vein, Howard (2014) has noted that inadequacies exist in funding for healthcare for most Indigenous groups in many countries. In Canada, these funding gaps have been attributed to laws governing Aboriginal rights and recognition (McDonald, Jayasuriya, & Harris, 2011).

Again at the institutional healthcare level, inadequate funding has resulted in limiting interventions with respect to coverage, availability of interventions, comprehensive implementation of activities, staff shortages, lack of infrastructure and lack of support packages. Other constraints include unemployment and lack of supports for patients. For instance, a study reviewing the barriers to community-level diabetes healthcare interventions in Canada found that where interventions operate without supports, the absence of such social supports hinders patient participation, especially among the Aboriginal population (Beach et al., 2005).

Political commitment to healthcare is comprised of a number of decisions taken by people in authority to care for people living with a disease, and to contain its spread or emergence (United Nations General Assembly, 2011). This commitment comes in the form of financial commitment and resource allocation. These have direct or indirect implications on healthcare for people. The level of political commitment for diabetes in Canada is not limited to the Federal and Provincial governments. It also requires efforts by civil societies to decrease the incidence and care for those living with the disease (PHAC, 2011). Although knowledge from healthcare professionals is important, Orosz (2000) postulates that political commitment to controlling the disease is perhaps more critical than expert knowledge.

2.6 Cultural competency and cultural humility

Some scholars have used the term ‘cultural humility’ instead of ‘cultural competency’ (example Hizon, 2003; Israel, Eng, Schultz, & Parker, 2005). Tervalon and Murray-Garcia (1998) argue that there is a distinction between cultural competency and cultural humility.

However, both concepts indicate how effective healthcare intervention programs can be designed to be cultural sensitive and attract minority populations. Other authors have pointed out to some basic distinctions between the concepts. It is argued by Israel et al. (1998) that, cultural humility is achieved through the process of self-criticism and a lifelong learning of community-based knowledge (culture and traditions) by a healthcare professional. It also involves incorporating the “expertise and experiences” learned into practices, including the design and implementation of healthcare interventions. The term cultural competency has therefore, been criticized by many authors, who advocate for the use of cultural humility. For example, Hizon (2005, p. 10) contends that, cultural competency connotes “the endpoints of culture, or being equipped with the mastery of all the aspects of a particular cultural knowledge- traditions, beliefs, practices and skills”. Some of these authors argue further that the culture of a particular group of people is broad, complex and diverse (Tervalon & Murray-Garcia, 1998). This makes it difficult for it to be mastered into health intervention programs.

However, to some, cultural competency of healthcare intervention programs is not defined by incorporating discrete endpoints to a particular culture of group of people into an intervention, but rather as an active engagement of the community in developing healthcare interventions, and incorporating a defined set of cultural beliefs and practices appropriate and sensitive to the culture of the group for whom the intervention was designed (see also Hizon, 2003; Israel et al., 2005). Culturally competent intervention programs have clearly defined goals and established criteria, which are explicitly articulated for program accomplishment or for a rigorous evaluation and assessment by a researcher (Birch et al., 2009; Brach & Fraserirector, 2000; Campinha-Bacote, 1999; Tervalon & Murray-Garcia, 1998). Additionally, Stewart (2006) emphasizes that cultural competence does not mean knowing everything there is to know about a particular cultural linguistic group. This author further argues that the pursuit of such goals as unrealistic, which can unvaryingly lead to the stereotyping of a cultural group. Cultural competency is a process that requires cultural humility. For example, it requires cultural humility to develop and sustain mutual trust and respectful partnerships with individuals and communities. Therefore, cultural humility has been identified as a means to achieving cultural competency, through self-reflection.

2.7 Overview of some Aboriginal diabetes health/healthcare interventions in Canada

Diabetes health interventions refers to a broad set of actions, which can be defined as policies and regulations for the well-being of people living with diabetes, and prevent others from developing the disease (Fox, Gillespie, Kilvert, & Sinclair, 2013). The literature on diabetes intervention programs distinguishes them into mainly population level (including nutrition therapy, physical activities, and public health programs) and individual level (mainly medical) interventions (Martyn-Nemeth, Vitale, & Cowger, 2010; Zeh et al., 2012). The signature interventions in Canada are mostly population level interventions. These intervention programs consist of approaches adopted and aimed at preventing diabetes, managing existing diabetes or in some cases slowing the complications associated with the disease, through lifestyle changes (see Slean et al., 2012; Zeh et al., 2012).

In developing diabetes intervention programs for Aboriginal people, some scholars (example Birch et al., 2009; Cargo et al., 2011; Lévesque et al., 2005) argue for population level interventions. This is because such interventions can adopt a comprehensive, community-level, approach that can aid in reducing inequities, and ensure improved health outcomes (Wendt & Gone, 2012; Zeh et al., 2012). This section discusses some signature diabetes health interventions for Aboriginal populations in Canada. These are Aboriginal Diabetes Initiative, Sandy Lake Health and Diabetes Project, Kahnawake Schools Diabetes Prevention Program and Pathways to Well-being project in Saskatchewan. Apart from the Aboriginal Diabetes Initiative, the rest are community-level diabetes health formulated for mainly First Nations people. These are reviewed in this study because of lack of Métis specific signature interventions.

2.7.1 Aboriginal Diabetes Initiative (ADI)

As a response to the escalating prevalence rate of diabetes among the Aboriginal population, the federal government in 1999 initiated the Aboriginal Diabetes Initiative (ADI) as a component of the Canadian Diabetes Strategy (CDS), which is being implemented in phases as community-based health promotion and primary prevention of diabetes. It started with a seed funding of 58 million dollars for 5 years in the first phase (1999-2004) to reduce the incidence of T2DM, through actions such as health promotion and other primary prevention activities (Health Canada, 2011; PHAC, 2011). The second phase started in 2005 with the

federal government investing 190 million dollars for a period of 5 years (Health Canada, 2011). The third phase of the ADI started in 2010, and it is expected to end in 2015. Presently, Canada is investing over 50 million dollars annually at this phase.

Even though the ADI has some individual level interventions, it mainly geared towards population level programming. As a community-based health promotion and primary prevention of T2DM, the ADI is geared towards providing funding to communities and organizations to develop community-based culturally appropriate intervention programs. The ADI seeks to promote community-based T2DM intervention programs that are culturally relevant for the prevention, care and management of the disease (Health Canada, 2011; Métis National Council, 2006). The objectives of such intervention programs are to manage diabetes by delaying associated complications and to prevent diabetes through improved access to healthy food; promotion of physical activity and approaches designed to enhance diabetes awareness (Health Canada, 2011). In view of this, a wide range of health intervention programs aimed at promoting awareness of diabetes, healthy eating and physical activities are developed, including, for instance, community kitchen and gardens and physical activity groups aimed at facilitating weight loss.

Under the ADI, community-based health promotion and primary prevention has been developed into two streams; the first stream involves First Nations and Inuit Community-Based funding. The purpose of this stream is to provide First Nations and Inuit communities access to adequate funding by the federal government for diabetes health intervention programs. The second stream is the Urban First Nations, Inuit and Métis Diabetes prevention funding (Health Canada, 2011). In collaboration with Tribal Councils, First Nation organizations, Provincial and Territorial governments, funding is used to deliver a wide range of primary prevention and screening and treatment programs. Local communities are encouraged to use local knowledge to develop culturally sensitive approaches aimed health and wellness and reducing T2DM (Health Canada, 2011). However, community-level activities differ from one community to the other. The program includes community kitchens, community gardens, diabetes workshops, fitness clubs, dancing, canoeing among other traditional games.

2.7.2 Sandy Lake diabetes health interventions

Sandy Lake (*Ne gaaw saga'igan*) is a community located on a reserve for the Oji-Cree, in northwestern Ontario. In the past, the people of this community engaged in hunting and gathering (Martyn-Nemeth et al., 2010). With time, the traditional practices forming the basis of their lifestyle gradually faded with its associated effects on their health. Haase et al. (2008) and Ho et al. (2006) observe that these activities have greatly decreased with modernization of their society. It is believed that the decrease in the levels of physical activities and nutrition have resulted in diabetes increase to the point where incidence and prevalence rates are among the highest in Canada. In order to determine the prevalence rate and identify risk factors associated with the disease, as well as to address these inequities, researchers and community partners created the Sandy Lake Health and Diabetes Project (SLHDP) (see Harris et al., 2002; Saksvig et al., 2005). The SLHDP enabled the development of school-based programs and other community-based activities targeting the risk factors identified (Ho et al., 2006; Saksvig et al., 2005).

2.7.2.1 School-Based Diabetes Prevention Program under SLHDP

The school-based diabetes prevention program is culturally appropriate and sensitive curriculum developed for the intervention of the disease using First Nations learning styles for elementary school children (Ho et al., 2006). Again, the school-based format was developed as part of the curricula for children in grades 3 and 4 (Haase et al., 2008), using Sandy Lake First Nations cultural relics, artifacts and concepts. The school curricula basically use traditional learning approaches such as “role modeling, taste tests, skills building, goal setting and games”. Zeh et al. (2012) state that incorporating local knowledge into healthcare intervention programs aid in yielding higher patient outcomes for minority populations (see Macaulay et al., 2003; Saksvig et al., 2005).

The main objectives of the school-based intervention were to increase knowledge concerning the need for healthy food eating habits, reduce the intake of fatty foods, and increase the level of physical activities among school children. It also sought to decrease the longer hours spent being sedentary such as watching television, which results in longer hours of inactivity (Haase et al., 2008; Ho et al., 2006). Included in the curriculum was information on diabetes, healthy eating habits (providing the skills and encouraging people to making healthy food

choices) and daily physical exercises (learning about the various forms of physical activities and providing pupils the opportunity to engage in these activities).

Healthy breakfast and snack program was implemented in the schools. This took the form of morning snack program, providing children with healthy meals every morning on a daily basis (Ho et al., 2006). In fact, Ho et al. (2006) and Macaulay et al. (2003) determined that traditional foods were incorporated into these programs. Again, as part of this intervention program, the Educational Board adopted a school wide policy by not allowing pop, chips and sweets on the school premises (Macaulay et al., 2003). The school-based intervention employed community participation, which came with a number of activities organized after school. This resulted in several follow-up community level programs such as baseball, broomball, summer camps, and hockey leagues to improve physical activity levels (Saksvig et al., 2005).

2.7.2.2 Community level programs under the SLDHP

Haase et al. (2008) argue that a major issue of concern was how to sustain the activity at the schools in the homes of the children. Therefore, the community-level programming targeted families of students to educate them on the importance of healthy eating habits and physical activity, which were being addressed in the schools (Saksvig et al., 2005). This was because students spend most of the time at home than in school, and to inform parents of the school-based program.

Additionally, the SLDHP also included community-wide diabetes intervention programs to educate the community on the importance of physical activity and adopting good eating habits aimed at preventing the disease or to delay its complications among those living with the disease. These community intervention programs included Northern Store Healthy Food Choice Program, radio talk shows and walking programs (Haase et al., 2008; Ho et al., 2006). Some of the events include walk to work, sports tournaments, health fairs and regular organization of nutritional awareness week in the community (Ho et al., 2006; Macaulay et al., 2003).

Most of the activities organized under this intervention program, were developed around the culture of the local community. Saksvig et al. (2005) have noted that the Northern store is a

grocery store in the community, and is considered as a meeting point for most of the community members. The workers at the store were trained to teach customers how to shop for healthy foods and to maintain proper eating habits in order to prevent diabetes (Haase et al., 2008; Ho et al., 2006; Macaulay et al., 2003). The trained workers used both English and the local Oji-Cree dialect to label healthy foods, and encourage customers to consume such foods (Ho et al., 2006; Macaulay et al., 2003). Additionally, radio programs were aired on Fiddler memorial radio in the local language to teach people about diabetes and the importance of adopting healthy eating behavior (Ho et al., 2006). Also, Ley et al. (2008) noted that the community-walking trails were developed around some longstanding traditional practices designed to increase the level of physical activity among community members.

Funding for this intervention program is extremely reliant on the ADI and, many authors (example Haase et al., 2008; Macaulay et al., 2003) have described the SLHDP as successful in terms of its implementation as well as reducing the incidence and prevalence rates of diabetes. Also, the program is known to have greatly increased knowledge concerning healthy dietary lifestyle and improved dietary behavior. Currently, the intervention programs are being replicated in seven other First Nations communities on reserves in Ontario, due to its cultural appropriateness (see Haase et al., 2008; Ho et al., 2006; Macaulay et al., 2003; Saksvig et al., 2005).

2.7.3 Kahnawake Schools Diabetes Prevention Program.

Kahnawake is a *Kanien'kehá:ka* (Mohawk) community located south of Montreal, and the people in the community adhere to the Mohawk cultural and traditional practices (Macaulay et al., 2003; Paradis et al., 2005). However, Macaulay et al. (2003) and Potvin et al. (2003) observe that with time, the traditional practices were steadily replaced by sedentary lifestyles. They argue that like other Aboriginal populations in Canada, the adult population is increasingly suffering the burden of diabetes. With the ever-decreasing age of diabetes onset and age-adjusted mortality rates, intervention programs were needed in the community (Bisset, Cargo, Delormier, Macaulay, & Potvin, 2004). Besides this, different complications were identified to be associated with the disease. For instance, Paradis et al. (2005) emphasize how Aboriginal people living with the disease in the community suffered significant health complications.

The Kahnawake Schools Diabetes Prevention Program (KSDPP) was started with funding from Kahnawake organizations and the federal government (Macaulay et al., 2003). However, Lévesque, et al. (2005) observe that at some point in the program's implementation, the community had to raise additional funds to support the program themselves (see also Cargo et al., 2008; Cargo et al., 2003).

Through community-based participation, the people were involved in the development and implementation of the intervention program to ensure its long-term sustainability (Cargo et al., 2008; Macaulay et al., 2003). The project used staff mostly recruited from the community to train community members on diabetes prevention strategies. Potvin et al. (2003) and Birch et al. (2009) document the importance of involving the communities in the development of health interventions and engaging some of the them to work with the intervention program. These authors posit that it ensures a sense of ownership on the part of the people in the community, and certifies the cultural competency of the intervention.

2.7.3.1 School-based intervention under KSDPP

The school based diabetes intervention used native culture and teaching approaches to introduce a new curriculum to teach health education aimed at increasing physical activity and healthy eating behavior among elementary school children (Lévesque, Cargo, & Salsberg, 2004). The focus of the school health promotion curricula was on the effective implementation of the health intervention education programs taught by teachers using both English and Mohawk, including extracurricular activities focusing on physical activities and nutritional activities (Macaulay et al., 2003). An important event organized in schools was the '*Racers for Health*', an annual event, which involves the school children running for a mile (Macaulay et al., 2003; Potvin et al., 2003). Also included in the school based intervention program, was the daily walk around the schools' compound for 20 minutes by both children and teachers (Cargo, Salsberg, Delormier, Desrosiers, & Macaulay, 2006).

In addition, strict measures and policies were implemented in the schools to stop junk foods from entering into the schools' environment (Macaulay et al., 2003; Potvin et al., 2003). Canteens in the schools served snacks certified to be healthy by the intervention programs (Cargo et al., 2006). As Paradis et al. (2005) demonstrate, any food or drink considered to be promoting obesity such as candies and chips are either trashed or sent back home by the

children. However, as Jimenez et al. (2003) note, this was a difficult measure for both children and parents to cope with.

2.7.3.2 Community level intervention under KSDPP

The community-level interventions were mainly measures to promote healthy behaviors among families and community outside the schools' environment. These interventions were designed around the traditional cultural recreational activities, which have existed in the communities for years (Cargo et al., 2008; Lévesque et al., 2005). These traditional recreational activities were re-energized through the community-based interventions, as a means of ensuring maximum participation by members.

The project managers collaborated with the community and other organizations to develop activities such as bicycle and walking paths, gymnastics, and line-dancing clubs. Other activities organized to encourage the involvement of community members to live healthy lifestyle including sledding, outdoor bowling, community hiking and ice-skating among other events. Macaulay et al. (2003) note that as some of these activities goes on in the community, the people present at these events are served with healthy foods. Through this medium they encouraged people to use these foods in their private homes. With funding from the collaborating partners, including ADI, healthy traditional foods (corn and squash) were served at events in the community (Jimenez et al., 2003; Macaulay et al., 2003).

Additionally, there is evidence in the literature to show that community gardening as part of diabetes intervention program was a major success in the Kahwanke community. This program was developed to encourage the community members to establish gardens and cultivate healthy foods, which will be readily available to their families (Cargo et al., 2008; Cargo et al., 2003; Lévesque et al., 2005). Also, it was to promote the cultivation of traditional Mohawk foods namely corn, beans and squash. Together, these foods were popularly referred to as the '*Three sisters*'¹² under the program. Paradis et al. (2005) observe that these foods are healthy and contain nutrients essential to the human body unlike the junk food transported into their community.

¹² The 'three sisters' is a term used by the community members. (See; <http://www.ksdpp.org/elder/intervention.php>. Accessed on December 9, 2013)

Many authors (example Cargo et al., 2008; Cargo et al., 2003; Lévesque et al., 2005) have generally described the KSDPP as a culturally sensitive intervention programs that was successful in reducing the prevalence rate of T2DM in the Kahnawanke community. The success of the program has been attributed to the ability to incorporate the cultural practices and traditions of the community into most of the activities organized under KSDPP. Notwithstanding the successes of the KSDPP, Potvin et al. (2003) argue that in the short term the program failed to effectively influence the health behavior of children in the elementary schools. However, the long-term analyses show major success in changes in dietary habits among community members, and participation in the various activities remains high (Macaulay et al., 2003; Potvin et al., 2003).

2.7.4 Pathways to Well-being in Saskatchewan

The Pathways to Well-being was developed for the Aboriginal people and implemented in many communities in the Saskatoon health region for the First Nation and the Métis people (Sakatchewan Health, 2004). This program was developed in collaboration with partners including the Saskatoon Indian community, Métis Friendship Center, Saskatoon Tribal Council and Family Center, and Good Food Box Program among others (Dyck et al., 2007). Together with these partners, many activities were designed to raise awareness within the Aboriginal communities on the health impact of T2DM and healthy food choices. This intervention program has as its primary goal of reducing the rate at which Aboriginal people develop T2DM, and minimizing the complications among those who are living with the disease through healthy food choices and physical activities (Sakatchewan Health, 2004).

2.7.4.1 School activities under Pathways to Well-being program

A number of activities were implemented in schools to increase knowledge about T2DM and healthy living, and to increase physical activities. Regular physical exercise contributes to the burning of calories and subsequently, reduction of obesity- a major risk factor of diabetes (Dyck, Karunanayake, et al., 2013; Oster et al., 2012). To this end, walking clubs were established in schools to increase the level of physical activities among children. As part of the schools' activities, street hockey tournaments were held to increase the regular activity levels targeting at reducing obesity among children (Sakatchewan Health, 2004).

An important component of the school activities was the *'puppet show'*, a strategy adopted by the stakeholders to increase children's understanding of T2DM and health food choices among children (Sakatchewan Health, 2004). Included in this, are some school-based feeding programs to promote healthy food sources. For example, healthy snacks sale was implemented in schools to prevent children from eating foods, which can put them at risk of diabetes (Sakatchewan Health, 2004; Saksvig et al., 2005).

2.7.4.2 Community level activities under Pathways to Well-being program

The community-level activities such as screening programs and regular examination tests were to enable community members to know their diabetes status so that they can access diabetes care and treatment programs early to limit the risk of future complications of the disease (Sakatchewan Health, 2004). A holistic approach to treatment programs and services that is culturally sensitive and appropriate was developed for people diagnosed with the diabetes. For example, the Saskatchewan diabetes plan emphasizes smoking cessation programs, community foot clinics, increasing sport participation among persons living with the disease, and other physical activities programs geared towards enhancing the physical, social, mental, emotional, and spiritual well-being (Sakatchewan Health, 2004; Saksvig et al., 2005).

As part of Pathways to Well-being, a number of food programs and activities were implemented in the various Aboriginal communities in the Saskatoon health region. The community teaching kitchens and cooking classes were aimed at introducing community members to healthy cooking practices as well as planning and preparing healthy foods. Also included here was the *'Good Food Box Program'*, developed by Child Hunger and Educational Program (CHEP) (Sakatchewan Health, 2004). The program was a food distribution system that was incorporated into the pathways for health and well-being program to provide healthy top-quality and nutritious foods, which are rich in fiber at a relatively cheaper price to communities. It aimed at making accessible at all times nutritious, safe, and culturally appropriate foods, produced in a manner that will enhance good health and healthy living. These included traditional foods that were bought from local producers, packaged in boxes and made available in the communities at food depots manned by a coordinator.

Since these activities were implemented in different communities in Saskatoon health region, no specific activities were mentioned on the Pathways to Well-being program, except to say that the '*Diabetes awareness day*', which was an annual event, played a role in the community level physical activities (Ho et al., 2006; Macaulay et al., 2003). On Diabetes awareness day, each community brings together its members to go on a community walk, and share ideas about tips on how to prevent and manage diabetes. However, Aboriginal people are culturally and socially diverse groups. Therefore, developing a single intervention for two culturally distinct groups brings into question the cultural competency of such an intervention to meet the cultural needs of a specific group.

2.8 A conceptual framework for understanding culturally competent diabetes health/healthcare intervention programs

In order to informally evaluate the cultural competency of T2DM healthcare intervention programs among the Métis, a conceptual framework based on these components was used as a guide to design the study. Examining the cultural indicators in these programs will provide a means of assessing how they can aid in improved health outcomes for Métis living with diabetes. After conducting an extensive literature review and a pilot research for this study, I developed indicators for evaluating cultural competency of healthcare interventions. The indicators in the diagram represent what I assumed to be vital to culturally competent healthcare intervention. I chose these indicators as the framework for analysis to prevent repeating the narrow assessment of culturally competent healthcare interventions. These indicators were incorporated into a diagram for understanding culturally competent healthcare and to provide conceptually sound analysis of the data obtained for this study.

This framework is grounded on conjectural and conceptual perspectives that explore culture and health/healthcare interventions and how it impacts on the health status of patients (Campinha-Bacote, 2002; Petroulias et al., 2013; Wendt & Gone, 2012; Zeh et al., 2012). Therefore, it is based on cultural indicators or criteria for evaluating the culturally competent of T2DM intervention programs within the Aboriginal communities as reported in the literature characterize the framework (Figure 1). It characterizes an effort to move away from the western approach to healthcare for Aboriginal people to understanding T2DM health interventions from Aboriginal cultural perspective. My study is conscious about the construction of the conceptual framework in that: models and frameworks are helpful for

clarifying theories, abstract concepts or constructs. In addition, to be useful in practice, a framework must be applicable to the conditions that it seeks or attempts to describe and analyze (Yin, 2011).

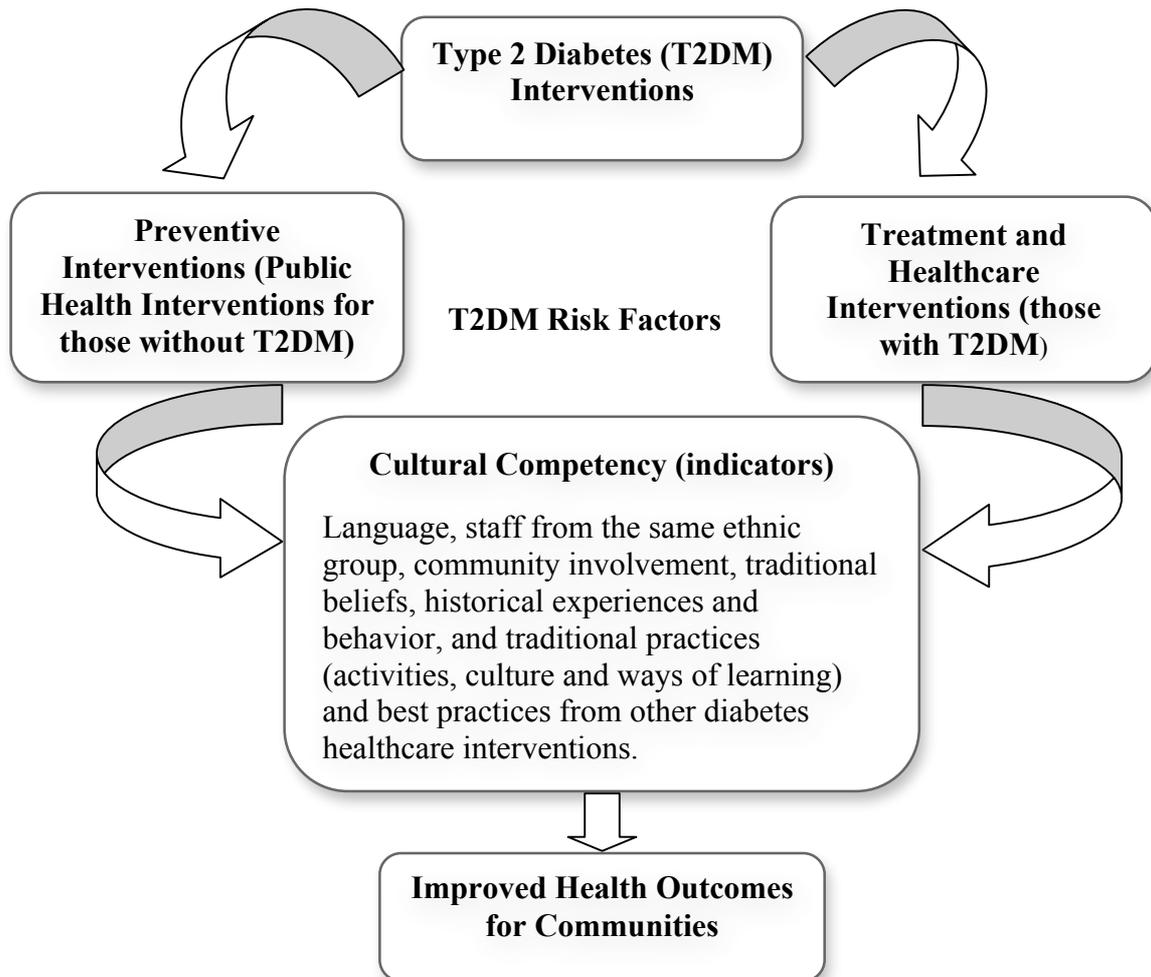


Figure 1: Framework for evaluating cultural competency of T2DM health/healthcare intervention programs/services

The above general framework of culturally competent healthcare evinces how cultural indicators combine in a public health and healthcare intervention to produced improved health outcome. In this framework, two main types of intervention programs can be identified, namely: interventions aimed at preventing people from developing diabetes (public health interventions) and those with the goal of care and management of people living with the disease (healthcare) to delay or limit the associated complications. These interventions are formulated around the risk factors of T2DM. Even though, most of these

intervention programs are not mutually exclusive to either category (prevention or treatment), this study was concerned with interventions formulated for those living with T2DM. In developing culturally competent health interventions, we take into consideration a number of factors (example language, food, health practitioners from same ethnic group, health beliefs of patients). It is expected that when a healthcare intervention meets these indicators, it improves patient satisfaction and perhaps produce better health outcome.

The conceptual diagram contains some cultural indicators, such as language, community involvement, and historical experiences, which are consistent with the Métis worldview and understanding of health as indicated in the Métis Red River cart wheel's social determinants of health (see Métis Nation of Saskatchewan, 2012). The Red River cart wheel was adapted by the MN-S health department from the community and wellness model by Sakitawak Métis Nation of Île-à-la-Crosse (Métis Nation of Saskatchewan, 2012). The Red River cart wheel was chosen by MN-S because of the culturally recognizable symbols¹³ for Métis people (see figure 2). The cart wheel was used in the MN-S Health Department Strategy, titled "*Miyô âyâwin*" (a Cree and Michif word used for health). The Health strategy adopts a holistic perspective to describe health and well-being by including aspects such as physical, mental, emotional and spiritual wellness of an individual, family and community.

¹³ In history, the Red River cart wheel was created by the Métis during the fur trade era in the 1800s. The cart was useful in the harsh prairies conditions for the transporting people, furs, food (Métis Nation of Saskatchewan, 2012).

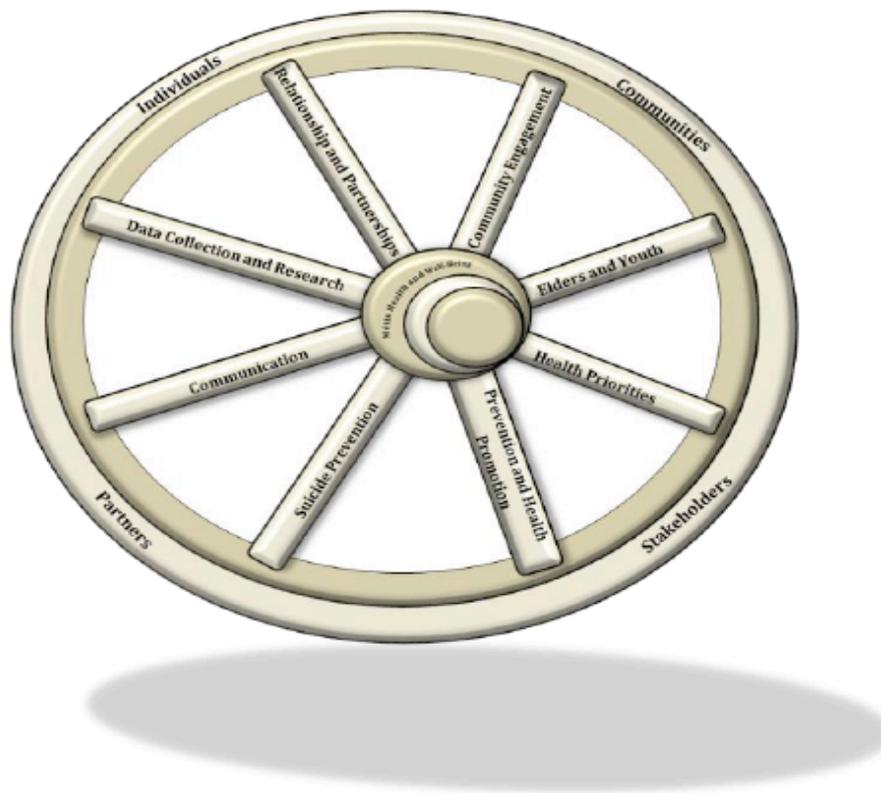


Figure 2: Red River cart wheel

Source: Métis Health and Well-Being Strategy (Métis Nation of Saskatchewan, 2012, p. 17)

The hub of the cart wheel indicates, among other things, Métis health and well-being. It is seen as holding the community together, because the hub provides power, anchors and holds the community together. It serves as a point of convergence for the diverse ways through which visualize health and well-being. It further represents Métis cultures, traditional knowledge, values, norms, and language. It serves as a point of congruence (well-being) through which Métis visualize their health. The spokes are of equal length demonstrating a balance and equal attention in health priority areas such as communication, data collection and research, health priorities, community engagements, elders and youth, health promotion and suicide prevention. (Métis Nation of Saskatchewan, 2012). Individuals, communities, partners and stakeholders working together to improving Métis health are represented by the felloes (Métis Nation of Saskatchewan, 2012). I introduced the cart wheel as an ideal way of thinking about culturally competent healthcare interventions for Métis, because of the social determinants of health embedded in it. Additionally, the Métis understanding of social determinants of health mirrors some common Métis health beliefs informed by their past experiences, history, culture beliefs, traditional practices, and historical experiences (impact

of colonization). The cart wheel and the framework I developed for my study have some relationship because they have similar cultural indicators such as traditional knowledge, values, norms, language and community engagement as a central point for Métis health and well-being.

To the Métis and other Aboriginal people, their health is influenced by colonization and its effects leading to discrimination, and failed attempts of cultural assimilation (Bartlett, 2003; Dyck et al., 2012; Hayward et al., 2012). A significant contribution of the indicators developed in my study is their ability to assess the cultural competency of healthcare intervention for minority groups. Moreover, it should be emphasized that the indicators identified in the framework may be applicable to evaluate the cultural competency of other healthcare programs for other minority populations.

Again, it should be emphasized that establishing a standard as to how many indicators/criteria healthcare intervention should meet before it can be affirmed as culturally competent may be impractical. However, the indicators work interactively to produce a culturally competent healthcare. This study tends to concentrate on the Métis cultural indicators. This framework will guide the study, and the cultural indicators identified will be used to evaluate the selected programs. However, it will do so in an informal manner, rather than as a formal evaluative study.

2.9 Summary

Evaluation studies conducted into the cultural competency of healthcare interventions in Canada are few, but it is worth noting that the importance of evaluating intervention programs in improving health outcomes for minority populations cannot be underestimated. Knowledge gained from such evaluations is important as we seek to understand how healthcare is being provided to minority populations, and to introduce improvements in to healthcare systems when needed. Brathwaite and Majumdar (2006) argue that evaluating culture in healthcare offers the prospects for healthcare practitioners or researchers to provide feedback for successes, failures of cultural competence and areas for improvements. The study constructed a framework (*figure 1*) to examine how Métis culture is reflected in some diabetes intervention programs in Saskatoon. The next chapter presents the research design and methodology employed under this study.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The previous chapter reviewed related literature to this study. Regardless of the paradigm (qualitative or quantitative), data collection and analysis are important. Specifying the diverse sources of data and how they are analyzed offers the reader the basis for “impartially” assessing a study, particularly whether the conclusions and recommendations that emerge from the data are valid. This chapter examines the overall methodological approach adopted to carry out this study. It describes the processes and steps taken to ensure community collaboration, research design, data collection techniques and analysis employed to answer the research questions formulated, as well as any ethical issues. The study methods used are described and explained in the following sections.

3.1 Research collaboration agreement

Before I discuss the research design and methodology for this study, I will provide a description of the processes and steps we¹⁴ engaged in before undertaking this study. The Health Department of MN-S was engaged as partners of this research project. This partnership led to the signing of a research Collaboration Agreement. The Health Department of the MN-S is experienced in community-based research, and has been collaborating with other community researchers and academic institutions. However, the Director of Health at the time of signing this research agreement told me they have not routinely had research agreements with graduate students. Indeed, the first agreement with a graduate student was with Dr. Amanda LaVallee (LaVallee, 2014).

The collaboration agreement is in the form of a research contract between Health Department of MN-S and the researchers (my supervisor – Dr. Paul Hackett and myself). The agreement clearly states the research goals and the responsibilities of each member. As the graduate student, The MN-S sent me a draft copy of the research agreement MN-S had prepared. I revised the draft copy to suit the needs of my research project. My supervisor did the final revisions, after which it was emailed to MN-S for her suggestions. Once we all agreed to the content, a final version was created and each member signed and received a copy of the

¹⁴ Includes my thesis supervisor, the MN-S Health Department and myself.

agreement at the offices of the MN-S (Appendix II details the specifics of the research collaboration agreement).

The main role of MN-S in this research project was to help the researcher to indirectly approach the research participants (Métis living with diabetes), and also participate in the study (as part of the interviewees). Even though the MN-S helped me to contact my research participants, it was not without challenges. Initially, we had difficulty contacting Métis people living with diabetes. Initial contact between MN-S and potential participants living with diabetes was delayed for about three to four months. Also, I did not get the opportunity to interview staff at the Health department. This was mainly due to the staff turnover at MN-S. We had our first partnership agreement meeting with the Assistant Health Director. However, she left the MN-S before we returned to the office of MN-S for our second meeting. Also, the Health Director, whom I was working with on my project, left the MN-S. Thereafter, I worked with 2 other Health Directors with one of them in an acting position. Again, when it was time to interview the staff at the MN-S Health Department, all had been laid off as of March 31st 2014, because of funding cuts from the provincial government.

3.2 Research methodology and methods

Silverman (2011) notes that methodology refers to the choices we make about the research problem of study, methods of data gathering, and forms of data analysis in planning and executing a research study. He states further that, it is a meta-perspective on methods, for instance, by discussing methods theoretically. Therefore, research methodology considers the reasons behind the methods incorporated in the context of our research, and gives understanding about why a specific method is used. This enhances evaluation of research findings either by the researcher or other people (Neuman, 2010). Methods on the other hand have been explained as a consistent set of rules and techniques which can be used to investigate a phenomenon (DePoy & Gitlin, 2011). They provide a primary basis to research as to show how the research is done. In conducting social enquiry, it is required that a well-defined method is followed to achieve concrete results.

In evaluative research of healthcare interventions, methods such as experimental designs, quasi-experimental design, and non-experimental designs have been used, using quantitative statistical techniques, mostly to measure the effectiveness of single interventions (May &

Potia, 2013). In the last decade, however, many healthcare interventions have become exceedingly complex, making it imperative for researchers to examine the extent to which these healthcare interventions are implemented using both quantitative and qualitative methods (Botha, 2010; Lavallée, 2009). These authors have argued further that qualitative methods such as in-depth interviews, structured observation of healthcare interventions are important in conducting evaluations. To this, other authors (example Bassey & Melliush, 2013; Birch et al., 2009) have used qualitative research techniques to study cultural competency of healthcare interventions.

Qualitative research techniques were used to gather data for this study. Qualitative research facilitates a holistic standpoint, because it assumes that an issue is studied as a whole. The merit of qualitative portrayals of holistic settings is that greater attention of the researcher can be given to the nuances and complexities (Silverman, 2011). The conceptual framework in chapter 2 provided the basis for the researcher to view culturally competent healthcare interventions holistically. The research strategy provided the researcher an opportunity to access and generate a comprehensive and sufficient data essential for addressing the study's goal, which is to explore the extent to which T2DM community health interventions in Saskatoon are being delivered to the Métis in Saskatchewan in a manner that is sensitive to their culture.

3.3 Research design

This research is concerned with describing the lived experiences of people with diabetes in accessing diabetes intervention programs. Thus, it adopted an interpretivist paradigm, specifically phenomenology. This paradigm deals with peoples' subjective experiences and of the social world, and offers a better approach of tapping into the real-life experiences of the research participants. Its main aim is to interpret the subjective meanings people give to situations (Silverman, 2011; Yin, 2011). DePoy and Gitlin (2011) argue that this approach offers a richer theoretical base by providing it with an in-depth grasp of the issues at hand as well as enabling the researcher to cover detailed dimensions of the phenomenon. This research involved a partnership with the Métis Nation-Saskatchewan (MN-S).

3.4 Justification for qualitative approach

Semi-structured and structured qualitative interview approaches were used to enable the researcher to explore the meanings and experiences of Métis with respect to T2DM healthcare interventions. Winchester and Hay (2005) indicate that qualitative research methods are vital to geographers, because the methods are suitable to inquire about social structures and are good methods for geographers to document the lived experiences of people, places and events. In addition, the approach provides an opportunity for researchers to have access to valuable data, that are rich in meaning and provide an in-depth understanding of the subjective experiences of people (Castleden, Mulrennan, et al., 2012). In summary, this approach was used in the study because it is best suited for answering the research questions that have been articulated by the study.

3.5 Rationale for phenomenological approach to the study

The term Phenomenology was derived from the Greek word *phenomenon*, which means, “that which appears” and *logos* which means, “study”, and was developed by Edmund Husserl in the in the early 1900s (Silverman, 2011). It is a method for understanding the complex and multidimensional nature of how persons experience the world and make sense of it (Bender, Peter, Wynn, Andrews, & Pringle, 2011; Converse, 2012). Converse (2012) contends that phenomenology is seen as scientific approach that is used to assess the components that constitute the subjective lived experiences of people. Additionally, phenomenology as a research method is used to get at the quality and texture of experience. In doing a study using phenomenology, Winchester and Hay (2005) argue that the approach allows the meanings of the experiences of people to emerge from within the experience itself.

Even though phenomenology began as a philosophy around the turn of the 20th century, it is no longer a philosophy, but rather a method. Husserl and Martin Heidegger have proposed two main types of phenomenology. The phenomenology proposed by Husserl became known as *descriptive phenomenology* (Kellest, Greenhalgh, Beail, & Ridgway, 2010). The goal of descriptive phenomenology as a method for research study is to provide an objective description of lived human experiences (Kvale & Brinkmann, 2009). Converse (2012) argues that *bracketing*- researchers freeing themselves from prior knowledge before conducting research- is at the center of descriptive phenomenology. A second type of phenomenology

challenges the assumption by descriptive phenomenology as proposed by Martin Heidegger. This became known as *interpretive phenomenology*. Heidegger believes that individual experiences are shaped by their life-world, and are influenced by their circumstances (Kellett et al., 2010). Therefore, human experiences cannot be separated (bracketed) from their life world (Yin, 2011). In this study, I used descriptive phenomenology.

A phenomenological approach was chosen for this study, because in practical application of health research, applying phenomenology as an approach can be used to achieve results by approaching treatment and health promotion through the patients' perspective and addressing their perceived healthcare needs. Therefore, when applied to this study, this approach gave an insider perspective to evaluate how Métis culture and historical experience are reflected in some diabetes healthcare intervention programs in Saskatoon for Métis living with T2DM.

Also, phenomenology involves understanding the lived experiences of people within their personal situations. This is considered as an efficient decolonizing research approach (Kellett et al., 2010; Pringle, Drummond, McLafferty, & Hendry, 2011), because of its reliance on engaging and collaborating with research participants. Furthermore, as a qualitative approach used in Indigenous communities, the collaboration with the research participants allows them to describe their experiences their own way in a culturally appropriate manner. This draws on participants' experiences to assess the cultural competency of diabetes intervention programs.

3.6 Study setting, sample and sampling procedure

Today, the Métis population in Canada is becoming increasingly urbanized, and is faced with numerous health issues including diabetes. The research setting for this study was the city of Saskatoon, Saskatchewan. The city has one of the highest proportions of Métis residents in a Canadian urban center, with a high percentage living below the poverty line (A. B. Anderson, 2013), and with relatively high diabetes prevalence (Métis Nation of Saskatchewan, 2012). Community-level diabetes healthcare interventions developed for minority populations in Saskatoon were considered during this study. These healthcare interventions were selected based on being developed solely for minority population, having Métis people living with T2DM in Saskatchewan accessing it, and being community-based.

Furthermore, community-level public health and healthcare intervention programs have been identified as the most effective way for preventing and managing the complications of diabetes among minority populations, because its ability to encourage increased participation and patronage (Frusti et al., 2003; Howard, 2014). It is argued that it is easier to incorporate culture into activities organized under community-level healthcare interventions than mainstream healthcare (Wendt & Gone, 2012). Again, community-level diabetes public health and healthcare intervention (these were used because the two are not mutually exclusive), when made culturally competent, serves as the most cost effective form of diabetes care for a particular ethnic group (Howard, 2014).

The study population included staff from Central Urban Métis Federation Inc. (CUMFI), frontline healthcare practitioners, and Métis living with T2DM in Saskatchewan. A purposive sampling strategy was employed by this study to access the worker from CUMFI and frontline healthcare practitioners from the various community-level diabetes healthcare intervention programs across Saskatoon. This is a sampling strategy in which the sample population is selected with a “purpose”. In a purposeful sampling, a researcher selects a sample size based on a particular strategy intended to obtain a specific group of people on the basis of particular characteristics they possess. It aims to access information-rich participants to shed light on issues of central importance to a researcher (Silverman, 2011; Yin, 2011). The specific inclusion criteria for selecting participants from CUMFI was having worked or still working at CUMFI health department. Health practitioners were selected on the basis of practicing in one of the community-level diabetes healthcare interventions identified, as a frontline healthcare practitioner.

Métis living with diabetes included those who access the community-level diabetes healthcare interventions in Saskatoon. When a participant living with diabetes met the inclusion criteria set, they were approached indirectly through the MN-S. If they agreed to join in the study, the project was explained to them more fully. Snowball sampling technique was used to select potential participants living with diabetes, via the staff at MN-S. The selection criteria for participants living with diabetes were based on participants being Métis, diagnosed with T2DM, and having already had some healthcare treatments with an intervention the researcher was studying. The MN-S uploaded the participant recruitment poster developed for this study on their webpage. This poster contained information for the study and the contact information of the researcher. People living with diabetes were

contacted to participate through this medium. Those who chose to participate in the project were also encouraged to give the contact information of the researcher to other people they knew who fit the selection criteria, with a request to contact the researcher, if they were interested in participating in the project. Through these recruitment processes, the sample of people living with diabetes was obtained. Although this sampling procedure has some limitations, such as the researcher having little control over the sample population and a potential lack of representativeness, it was the most appropriate and ethical way to identify Métis people in Saskatchewan living with diabetes and accessing diabetes healthcare interventions in Saskatoon.

During the fieldwork stage of the study, a total of 13 people consented to participate in the interviews. This constituted seven Métis living with T2DM, five frontline healthcare practitioners, and one staff member from CUMFI. The sample for the study was achieved on the basis of saturation (Silverman, 2011). While there is no theoretical standard for reaching saturation, in this study, the responses for the participants were regarded as saturated when no new themes were emerging from the interviews. As Kvale and Brinkmann (2009) argue, it is possible for a sample of saturation to be achieved with from five (5) to twenty (20) participants.

Table 1: Demographic characteristics of participants

*Name	Type of participant	Gender	Age
Alex	Living with diabetes	Male	62
Joe		Male	52
Rob		Male	67
Rosemary		Female	58
Rebecca		Female	30
Mary		Female	41
Sarah		Female	63
Healthcare practitioner	Health worker		
Healthcare practitioner			
Staff from CUMFI	CUMFI worker		

Source; Fieldwork, 2013

*All names of participants have been changed to pseudonyms in order to protect the identities of the participants

3.6 Sources of data

Data for this study were collected from three different sources. These sources were interviews with Métis people living with diabetes; frontline healthcare practitioners; and worker from CUMFI. The second set of data was collected through participant observation at the various diabetes healthcare interventions programs/services studied. The third source is data collected from documentary materials from programs records as well as other public records.

3.7.1 Interviews

Structured interviews were used with frontline healthcare practitioners and CUMFI worker, and semi-structured interviews were used for the Métis living with diabetes to allow them tell me their stories. Also, the semi-structured interviews were to obtain in-depth descriptions of

participants' experiences with diabetes healthcare intervention programs. Interviews were conducted using a standardized interview guide (see Appendix I) The questions were categorized under major themes, and took the “funnel approach” to asking questions, where a researcher begins an interview with simple questions before graduating on to more complex questions (Kvale & Brinkmann, 2009). Under the semi-structured interviews, different open-ended questions were asked based on key themes and issues identified. The advantage with this type of interview is that extra questions, which may not necessarily be part of the main questions developed, can be asked if the interview responses warrant them. Also, it provides the researcher with a chance to probe for new paths, views and opinions of the participants, again based on the responses to the initial questions.

There are several reasons for the use of interviews in this study. First, it aided the researcher to obtain a thorough knowledge about the phenomenon (from the perspective of Métis living with the disease as well as frontline healthcare practitioners) under study. Secondly, it gave the researcher the opportunity to understand the experiences and seek systematic construction of knowledge. Thirdly, it also provided meaningful opportunity to study and theorize about the social world, and has the possibility to produce rich and comprehensive accounts of an individual's experience (Kvale & Brinkmann, 2009). Finally, it allows the interviewees to define and account from their own perspective and not the researcher's point of view. In the context of this study, questions were asked about the stories on the experiences Métis living with diabetes on intervention programs among others.

3.7.2 Documentary materials

Documentary materials were collected from program records as well as public records (2011 census data). Métis population by neighborhood was extracted from these data. The 2011 data, obtained from Statistics Canada, were used because at the time of analyzing the data it was the most recent available survey, which could provide the Métis population, by neighborhood in Saskatoon. Also, shapefiles¹⁵ for the city of Saskatoon and Saskatoon bus transit routes were obtained from the University of Saskatchewan GIS database. Additionally,

¹⁵ A shapefile stores nontopological geometry and attribute information for the spatial features in a data set. The geometry for a feature is stored as a shape comprising a set of vector coordinates. (See; <http://www.esri.com/library/whitepapers/pdfs/shapefile.pdf>. Accessed on November 5, 2014)

proposals and some reports on the programs were accessed. In accessing information from the programs, an abstract of the study was initially sent to the program directors. Following a review, the programs' information was sent to me. However, some aspects of the records, such as attendance rates, were not used due to ethical issues. This is because such data contain personal information of the programs' participants including their names and residential addresses.

3.7.3 Participant observation

Participant observation encompasses establishing a rapport, systematically participating in an event and acting as a part so that people go about their normal daily life (DePoy & Gitlin, 2011). It has been argued that participant observation entails a full-scale participation of the researcher in the research nexus leading to familiarity with the participants (Winchester & Hay, 2005). This method brings with it numerous advantages to the research process. First, it enables the researcher to access data that might be inaccessible with this method. Second, it reduces the likelihood of the situation where people modify their behavior when they know they are being studied.

This was done to gain insights into the interactions between people living with diabetes and structures in their natural context. Again, Aboriginal communities and Indigenous researchers have challenged the "helicopter" approach to Indigenous researches (Castleden, Mulrennan, et al., 2012), in which researchers/ academics literally "fly" into communities, especially Indigenous communities, to conduct studies without interacting much with the community members, and leave never to be heard of again by the community. Therefore, it is important to spend time with the community during a research study. This approach increases the commitment level, acceptance, and reciprocity (Grimwood, Doubleday, Ljubicic, Donaldson, & Blangy, 2012). This was a challenging task during the fieldwork component of my project, especially with the initial negotiation of entry to participate in the diabetes healthcare intervention programs. Notwithstanding this, the observations were central to the experiences of participants living with diabetes. It also gave me the opportunity of speaking to other participants informally.

3.8 Data analysis

Data analysis started with the first interview. Following the study, anonymized copies of the transcripts were given to the interviewees for error correction. This also served to enable participants to retain the stories I have transcribed from them. During the data analysis, qualitative data obtained for the study were analyzed thematically using interpretive phenomenological perspective and the conceptual framework developed. This was done to make sense out of the experiences documented. The interview data were analyzed manually using coding and thematic analysis, in order to identify common themes, and to compare current interventions to those carried out for other cultural groups in Canada. In order to do this, the interviews were audio-recorded and transcribed verbatim. The interview transcripts were repeatedly read in order to gain understanding and for re-examination of some of the information that required clarification. Some recordings were listened to over again for clarification. Extensive field notes were taken by the researcher to ensure that important thoughts and insight were retained from the interview (Pringle et al., 2011).

The responses from the research participants and field notes were categorized and examined thoroughly to address the propositions formulated for the study. Interview data were coded, recoded, examined and organized thematically using phrases, words and experiences. The process of identifying relevant phrases was informed by information that surfaced from the literature review. This helped the identification of themes through numerous readings to describe the experiences of participants. The main approach taken in analyzing the field notes was through “constant comparative method” (DePoy & Gitlin, 2011). This is where codes are developed from topics related to the propositions of the study through constant reading of field notes. These were used to support the themes developed from the interview data. Quotes from some of the research participants were incorporated into the created themes to present their perspectives on the issue of culture and diabetes healthcare.

Validity as a concept has numerous application in experimental research (Neuman, 2010). In reference to designs, it refers to the “extent to which... [a]... study answers the research questions and ... findings are accurate or reflect the underlying purpose of the study” (DePoy & Gitlin, 2011, p. 90). Allowing participants to review and confirm the accuracy of the transcribed interviews facilitated validity. Also, the results of this study were compared with the results of other studies and the conceptual framework developed through the review of

extant art of knowledge (Yin, 2011). Reliability in research refers to “the extent to which [a researcher] can rely on the results obtained from an instrument” (DePoy & Gitlin, 2011, p. 203). The central objective of reliability is to lessen biases and errors on the part of the researcher when conducting the study (Silverman, 2011). Thus, this study employed a common approach for data collection and this approach was guided by phenomenology.

As indicated earlier, portions of the data from the programs’ information were used to for the description of the programs. The address locations of the community-level interventions identified were geocoded using ArcGIS 10.2 to identify their point locations on a map of Saskatoon. After this, the Métis population by neighborhood was joined to a shapefile of Saskatoon and mapped with bus routes to develop choropleth maps. This was done to determine the spatial location of Métis in the city and accessibility to public transport by Métis living with diabetes.

3.9 Research ethical considerations

Ethical consideration is an indispensable and fundamental basis of scientific research, and should be recognized always. This research was guided by good research ethics. Prior to commencing the study, ethical clearance was obtained from the University of Saskatchewan Ethics Review Board. Chapter nine of the Tri-Council Policy Statement for Ethics on Ethical Conduct for Research Involving Humans 2010 (TCPS), which provides guidelines specific to research with Aboriginal people informed the ethics application. It also employed ‘decolonized’ Indigenous approaches such as story telling in order to respect and value the Aboriginal culture during the research (Silverman, 2011). The benefits and harm were explained to the participants in order to obtain their consent. Both oral and written consent were be used to obtain informed consent, and participants’ confidentiality was assured.

The past decade has seen a growing interest in “decolonizing approaches” to researching Indigenous people (Hart, 2010; Smith, 2012). It is embedded in Indigenous research paradigms. The term has received much attention in discourse that concerns studies involving Indigenous communities (Martin, 2012). Hart (2010) noted that prior to the emergence of the decolonizing approaches, western research methodologies were seen by some researchers as the means to rightful knowledge within Indigenous communities. However, with the emergence of decolonization approaches such as story telling, it is argued that what is

deemed to be the “truth” is positioned within a specific culture, which demands “community specific understanding” and not transfer of understanding from a dominant perspective (Smith, 2012). Therefore, researchers should study Indigenous communities from their own understanding, and not from the western perspectives, which are seen to be adopting “colonialist” approach to studying Indigenous knowledge (S. Wilson, 2008).

Decolonizing research approaches or methodologies also challenge the interpretation of these data from the western perspective (Smith, 2012). Indigenous people see the use of western paradigms in their communities as misrepresenting their views that continue to evolve and sideline Indigenous ways of knowing. This is because they fail to acknowledge Indigenous belief systems, traditional knowledge and cultural practices (Martin, 2012). The failure of western paradigms in researching Indigenous communities from the perspectives of the Indigenous people has resulted in increased recognition of the value and potential of decolonization or indigenization of some of the western approaches to provide insight for contemporary health problems in Indigenous communities (Hart, 2010). Decolonizing approaches gives primacy to the worldviews of the research participants. It also enables the research to be “guided by Indigenous values, knowledge and processes within the research journey” (Walker, Fredericks, Mills, & Anderson, 2013, p. 206). It can be understood as a form of participatory action research that permits researchers to learn more about themselves and the communities being researched (Bartlett et al., 2007). Most importantly, it permits some form of ownership and control by those being researched.

Closely linked to the above, the principles Ownership, Control, Access and Possession (OCAP), which constitutes specific considerations in respecting Aboriginal communities in research (Smith, 2012; S. Wilson, 2001) were incorporated in this study. First, the principle of ownership signifies how a community is connected to their cultural knowledge. Therefore a community owns any information generated from its members and wields the right as a collective entity to decide on how it is used shared or stored (Schnarch, 2004). Second, the principle of access means that Aboriginal communities should have the chance to control all aspects of the research processes that can have likely impact on their community. It also includes the community members having easy access to data generated about their community (Schnarch, 2004). Lastly, the principle of possession asserts that Aboriginal communities should have the first option of stewardship about their community and its members.

OCAP has been one of the foundations for ethical research advanced by the Canadian Institute for Health research (CIHR) and has influenced the Tri-Council Policy Statement (TCPS) (Canadian Institutes of Health Research Natural Sciences, Engineering Research Council of Canada and Social Science, & Humanities Research Council of Canada, 1998 (with 2000, 2002, 2005 amendments)). OCAP was developed in response to the political and colonial approaches to research and information management that have not always benefited the Aboriginal people (Schnarch, 2004). It is concerned with the creation of knowledge and information with the First Nations people to its management and dissemination.

In this project, the OCAP principles were followed in order to ensure ethical research. These issues were deliberated upon and discussed in detail with MN-S Health Department to ensure good practice guidelines. For example, in order to ensure equal participation from Métis community members, I worked in collaboration with the MN-S throughout the research processes. Also, I adhered to all the ethical issues involved in conducting research Métis after receiving ethics approval for this project. I followed Métis community cultural codes and community protocols by using story telling. Finally, it is envisaged that Métis community (MN-S) will review any academic paper from the finding of this project prior to publication.

3.10 Summary

This chapter presented the research data collection and analysis techniques employed as a means of addressing the research questions formulated for the study. The study employed phenomenological qualitative research design through the application of qualitative interview technique in addressing the complexities and dynamics of cultural competency of diabetes healthcare intervention programs in Saskatoon for Métis. For achieving the goal of this study, the approach of the study was suitable but highly challenging. The amount of data obtained for detailed assessment of culturally competent diabetes healthcare intervention was rich. Interview data gathered were transcribed and analyzed using an interpretive phenomenological perspective. The themes that were deduced from the interviews were used to describe the experiences of the participants, and to assess the cultural competency of the diabetes healthcare intervention programs. The following chapters of this thesis present the results of the study.

CHAPTER FOUR

DIABETES HEALTHCARE INTERVENTION PROGRAMS IN SASKATOON

Due to the significant health complications associated with T2DM sustained efforts are often made to control its emergence and impacts. Therefore, multifaceted healthcare interventions generally targeted at achieving improved health for populations affected by the disease are required by patient clients (Peek, Ferguson, Bergeron, Maltby, & Chin, 2014). The focus of this chapter is to describe community-level T2DM healthcare intervention programs in Saskatoon targeted towards Saskatchewan Métis. Existing information obtained from the various healthcare intervention programs as well as interview data aided the description of all the programs studied. Following on this, the diabetes healthcare interventions are presented cartographically, and their geographical distribution is analyzed in comparison to Métis population by neighborhoods in Saskatoon.

4.1 Community level healthcare interventions for Métis in Saskatoon

Over the years, healthcare practitioners have taken several measures to minimize the emergence as well as complications associated with the disease. To this, interventions ranging from patient education, physical activities, food programs and medical treatment are developed to manage the emergence and complications associated with the disease. In Canada, different forms of interventions have been advocated to manage the complications as well as the incidence of T2DM. At the individual level, medical treatment is mainly used aimed at preventing and reducing the complications associated with the disease. At the population level for instance, nutritional therapy, physical activities, and public health programs are used. These are mainly community-level healthcare interventions with an effective broad scale approach of controlling diabetes.

Table 2 below shows an inventory of recent and existing diabetes intervention programs in Saskatoon. There were five main diabetes healthcare intervention programs in Saskatoon during the fieldwork component of this study. However, only two out of these programs are community-level interventions developed around diabetes risk factors and, specifically designed for minority populations (Aboriginal peoples and immigrants).

Table 2: Diabetes healthcare intervention programs in Saskatoon

Name of program	Activities	Who it serves	Location
**Aim 4 Health Diabetes Healthcare	Fitness, Food and Fun (FFF) (White Buffalo Youth Lodge)	Aboriginal people and Immigrants	602-20th street West
	Fitness, Food and Fun (FFF) (St. Mary's Wellness and Education Center)		327 Avenue N South
	Food Experience at Saskatoon Food Bank and Learning Center		202 Avenue C South
	* Individual Counseling and Education on Diabetes Programs		2409-22nd Street West
A Shared Vision for Healthy Communities and Healthy People	Collective Kitchen (includes food experience)	Aboriginal people and Immigrants	210-230 Avenue R South
	Good Food Box program		1120-20th Street West
	Community Gardening and Community Markets		1120-20th Street West
	New Steps Exercise and health education program		168 Wall Street
St. Paul's Hospital Diabetes Center		All populations	1702-20th Street West
Royal University Hospital Diabetes program		All populations	103 Hospital Drive
West Winds Primary Health Center	Women's Diabetes health center	All populations	3311 Fairlight Drive

Source: Saskatchewan health region/Fieldwork, 2013.

*These activities had been recently discontinued by the start of the fieldwork for this study.

**This is organized under the LiveWell Diabetes Management programs.

These two programs are both broad with a series of activities organized under each. For the purposes of this study, however, I focused on the two diabetes healthcare intervention programs – Aim 4 Health and Shared Vision for Healthy Communities and Healthy People - developed specifically for Aboriginal and immigrant populations living with diabetes with multiple sites. Although other interventions programs, such as St. Paul's Hospital Diabetes Center, Royal University Hospital Diabetes program, and West Winds Primary Health Center (Women's Diabetes health center) are important in diabetes healthcare, the scope of this study was to evaluate community-level/ community-based interventions developed for minority populations in Saskatoon. However, viewed broadly, the various levels of interventions provide an effective means of providing diabetes healthcare and prevention. This section focuses on the description of the community-level interventions. The intervention programs covered are *Aim 4 Health Diabetes Health* under *LiveWell Diabetes Management programs* and *A Shared Vision for Health Communities and Healthy people*.

4.1.2 Aim 4 Health Diabetes Healthcare

The existing programs' records (textual data in the form of proposals and reports) as well as the interview data and field notes obtained provided information for the description of this program. Aim 4 Health Diabetes Healthcare is a community outreach diabetes program, which is primarily focused on the prevention and management of T2DM in Aboriginal people (First Nations and Métis) and new immigrants in Saskatoon. The Aim 4 Health program organizes free diabetes healthcare intervention programs for individuals and families living with diabetes or at the risk of developing the disease, under the supervision of *Saskatoon Health Region LiveWell Diabetes Management Programs*. The main goal of this program is to provide holistic and comprehensive services that are culturally appropriate to its clients. Also, it seeks to enhance the accessibility of the target population to diabetes healthcare programs. The services offered under the Aim 4 Health diabetes healthcare programs include group exercise and food programs, and diabetes counseling and group education.

Furthermore, Aim 4 Health partners with the Saskatoon Community Clinic (Westside clinic) to offer *Fitness, Food and Fun (FFF)*, a health education and exercise program. FFF is offered three times a week (Tuesdays and Thursdays mornings at White Buffalo Youth

Lodge¹⁶ building and Mondays, early evening, at St. Mary's Education and Wellness Center in Saskatoon. Given the increased emphasis on culture in healthcare interventions, FFF is in collaboration with St. Mary's School to incorporate lessons on jigging (traditional Métis dance). However, this is not organized regularly. During the study, the jigging activity was found to be attracting many people as compared to the other non-traditional activity. For example, having observed about nine sessions with the jigging activity and eight sessions without jigging, it was apparent to me that more people participated in this program on 'jigging days' as compared to the other days. This finding is consistent with other studies, which have shown that people feel reluctant to participate in healthcare interventions that fail to incorporate their culture and traditional practices (Barlow et al., 2008; Petroulias et al., 2013; Slean et al., 2012; Zeh et al., 2012). Again, while there were people who only participated on the jigging days, others participated in both activities.

Apart from this physical exercise program, other activities are organized under FFF diabetes healthcare intervention programs. These include individual food experience, and diabetes counseling and group education. The food experience is held at the Saskatoon Food Bank and Learning Center to compliment the physical activity. This facet offers its participants the opportunity to learn about healthy eating and healthy meal preparation. The food program was found to be incorporating traditional foods. To this, a frontline health practitioner indicated, "the food program is probably more focused on introducing traditional foods that are connected to other Aboriginal groups [Métis and First Nations] such *bannock*¹⁷ and others". Additionally, the diabetes counseling and group educational programs are held at the White Buffalo Youth Lodge. Under this, participants are taught healthy eating practices and given lessons on how to manage the complications associated with diabetes.

The healthcare practitioners for this program are drawn from multiple disciplines, including a nurse clinician, health educator, dietitians and an exercise therapist. These specialists come from a variety of ethnic backgrounds. The Saskatoon Community Clinic provides three

¹⁶ This is a multipurpose health and recreational facility. It is a partnership between Saskatoon Health Region, Saskatoon Tribal Council, City of Saskatoon, and Central Urban Métis Federal Inc. (See; <http://whitebuffaloitc.org/>. Accessed September 11, 2014).

¹⁷ A flat quick bread baked or cooked from grain. It is found among most North America's Indigenous populations (See; <http://www.canadianliving.com/food/bannock.php>. Accessed September 11, 2014)

Aboriginal health practitioners to support FFF, one of whom is a Métis and two others who are First Nations. Also, they include healthcare practitioners from Aim 4 Health interventions including a nurse who identifies as Métis, and community outreach coordinator, who is of First Nations background, and Aboriginal peer leaders.

Furthermore, this program receives support from diverse sources. According to the program's documents, FFF has over the years received support, financial and in-kind from diverse sources including the Aboriginal Diabetes Initiative (ADI); Government of Canada; Saskatoon Community Clinic (Westside); Saskatoon Health Region; Student Wellness Initiative Towards Community Health (SWITCH); Central Urban Métis Federation Inc. (CUMFI); White Buffalo Youth Lodge; St. Mary's Education and Wellness Centre and Kinistin Saulteaux First Nation. Even though supports from some these sources may not be substantial, they have sustained the program over time.

The Community Peer Leader Program is a subsidiary program, which is implemented to support the FFF program among other intervention programs. The community-based peer leaders are themselves participants of the program, who are selected to provide support to the staff and participants of the program. The supports provided include follow up on participants, educating people on the availability of the intervention and on diabetes, among others. However, in order to qualify as a peer leader, a participant should have participated in the program for at least six months. The Community Peer Leader Program receives support in the form of community health grant to provide honoraria to the peer leaders.

4.1.3 Shared Vision for Healthy Communities and Healthy People

Child Hunger Educational Program (CHEP) Good Food Inc. (located at Station 20 West) developed this program with the primary intent of preventing and managing diabetes by ensuring food security. This program engages both the Aboriginal and some immigrant communities in the design and development of its activities. However, the involvement of the immigrant communities is not as dominant as the Aboriginal communities, because the growing immigrant population is a relatively recent phenomenon. Some of the activities, which participants mentioned that their communities were engaged in, include community garden and cooking activities. For instance, some participants indicated that the communities gardening was developed with the community deeply involved in the planning,

implementation, and funding. According to one of the frontline healthcare practitioners, the program's activities were designed to respond to the identified needs of the participants through the integration of diabetes awareness, health education, and skill development with the food security activities of CHEP Good Food Inc.

Under Shared Vision for Healthy Communities and Healthy People , CHEP cooperates with the other partners to offer different activities in the main Aboriginal neighborhoods in Saskatoon. The partner organizations include the Saskatoon Community Clinic, which is the most visible partner in this project, but there are other partner organizations of which two are Métis Organizations - Saskatoon Indian and Métis Friendship Centre (SIMFC), Central Urban Métis Federation Inc. (CUMFI), and Aim 4 Health. According to one of the frontline health practitioners, these partners collaborate to ensure the success of the program. However, one practitioner decried the inability for Métis organizations to come together to develop their own intervention. At present, each Métis organization prefers developing their intervention program to compete for the limited source of funding available. This view is captured subsequently in this study.

The Urban First Nation, Inuit and Métis Diabetes Prevention (UFNIMDP) stream of the ADI funds this program. This stream has replaced the Métis, Off-reserve Aboriginal and Urban Inuit Prevention and Promotion (MOAUIPP) funding, which ended in March 2010 (PHAC, 2011). However, funding for the program is not guaranteed, because of the limited source of funding available to this program. A frontline health practitioner, for example, indicated that the duration for the funding of the program will soon expire, and unless funding is secured from a different source the program will have to end. "... This is a two-year project, which will be ending in December [December 2013]. I'd say we are looking at other sources [other sources of funding] else the project has to end, because we need the funding dollars to run the program" (A frontline healthcare practitioner interviewed on October 7, 2013). Funding support is needed to pay for the cost of activities organized under the program as well as to hire the staff for the program. This program employs people from different backgrounds. Of the four permanent program staff, two are Métis and the other two are not.

Community Markets, Good Food Box and Community Gardening are some of the activities developed under this program. In line with this program, CHEP provides fresh produce at wholesale or a reduced cost, and partnering organizations provide volunteers to sell produce

to community members. Mostly, this activity is mobile so that foods could be sold at various locations in communities with limited access to retail groceries stores. Community Garden is also organized for the participants who are interested in planting and harvesting their own produce. The CHEP community garden allocates plots of land and provides technical support to help participants produce fresh vegetables from their own gardens. Since 2014, CHEP in collaboration with PotashCorp, as part of the community garden activity, are developing the Urban Agriculture Internship Project, which aims at building youth and newcomer knowledge and skills to grow vegetables.

The Shared Vision for Healthy Communities and Healthy People program also offers cooking sessions specifically for Aboriginal people. The Central Urban Métis Federation Inc. (CUMFI) is the sponsor of this activity. The Food Experience, for instance, is a cooking skills program offered by the staff of CHEP Good Food, Aim 4 Health (LiveWell Diabetes Program) and CUMFI in partnership with Saskatoon Food Bank and Learning Centre. Also, included under this set of cooking activities are Collective Kitchen Partnership Program and Kids Kitchens. The Collective Kitchen Partnership Program collaborates with partners to offer drop-in style food resource programming for their participants, peer leaders, and interested immigrants. The Kids Kitchens is an after-school skills and food education program. This program targets grade 4 and 5 students. However, it has also been adapted for older youth at the Osāyak High School¹⁸ and Core Neighborhood Youth Co-op¹⁹. This is aimed at teaching the children about healthy cooking and healthy eating practices. It is interesting to note that, most of these activities are also organized under the FFF set of activities.

¹⁸ Located at 919 Broadway Ave, it was established as First Nation survival school. It has a collaboration with Saskatoon Health Region the deliver primary health services to students.

¹⁹ Located at 903 20 St W, it is a skills building alternative educational program for the youth in Sakatoon. It provides a place to train youth to be self-sufficient by providing them with technical and social skills. Majority of the participant here are of 15-25 years. (See; <http://www.cnyc.ca/#>. Accessed on November 7, 2014)

Lastly, an exercise and health education program dubbed “New Steps” which is directed towards diabetes prevention in Aboriginal communities is offered at the Saskatoon Indian Métis Friendship Centre (SIMFC)²⁰ as part of the A Shared Vision for Healthy Communities and Healthy People. The SIMFC partners with CHEP and Saskatoon Health Region: Aim 4 Health to offer this program. This is a diabetes intervention exercise and health education program that includes physical activity (New Steps), healthy snacks and nutritious food choices for participants. In addition to this, when funding allows, CHEP and SIMFC collaborate to offer a supper program at SIMFC. CHEP provides healthy food and SIMFC staff prepares the meal. This program primarily targets single, low income, and in some instances, homeless Aboriginal men and women. According to a staff at the program, thirty to forty individuals access this program. The New Steps program was terminated some time ago before it was resumed in order to have Aboriginal participants in the program. This was because, according to one health practitioner, while the program was developed mainly for Aboriginal people, some time after the commencement of the program, it was realized that none of the participants was an Aboriginal person but rather immigrants. While Aboriginal participants in this study attributed this to the withdrawal of supports and high number of immigrants participating in the program, healthcare practitioners attributed it to lack of awareness of the intervention. Even though Métis living with diabetes were found to be participating these healthcare intervention programs, none of the programs was found to be Métis specific.

4.2 Spatial distribution and accessibility to diabetes healthcare in Saskatoon by Métis

The spatial accessibility analysis was done because the interview data revealed that while Métis living with diabetes may be aware of some of the healthcare programs and services in the city, dynamics such as lack of personal means of transport, limited access to public transport, and affordability to transport services limit geographic accessibility to diabetes healthcare programs and services by some Métis in Saskatoon. In this section, results of mapped intervention programs and services, Métis population by neighborhood, and public transport (Saskatoon bus transit) routes are presented. This was done to determine how well

²⁰ Located at 168 Wall St, the center works with and for Métis and other Aboriginal people in Saskatoon. The provide services with some aimed at health and well-being of their participants including volleyball game, Pow Wow song and dance. (See; <http://www.simfc.ca/>. Accessed on November 7, 2014).

locations of interventions line up with Métis residence, and accessibility to public transport. However, the map below is a crude approach to spatial location of diabetes healthcare intervention programs and Métis residence.

Geographical coverage was important to this research. This is because Métis are not evenly distributed throughout the city, but they also do not live in a single location or neighborhood. Neither healthcare utilization services nor Aboriginal populations are evenly distributed spatially (Wang & Tormala, 2014). This situation is likely to affect frequency of participation in the healthcare interventions. This raises the question of whether there is disparity in geographical access to diabetes healthcare interventions. Therefore, the role geographical accessibility to the programs, especially the community-level interventions, plays in Métis diabetes healthcare is worth interrogating. Given that T2DM can be prevented and its complications delayed by appropriate intervention programs issues of spatial locations and access to healthcare may be particularly important to the Métis population.

Ethnic disparities to geographical access to healthcare have been well documented in the Aboriginal health literature, particular among those with chronic medical conditions (Goa et al., 2008). This is because proximity to diabetes healthcare interventions is considered as a problem in many Aboriginal communities in Canada (Browne et al., 2010). Almaatouq et al. (2014) have also argued that non-compliance and some of the negative effects of self-medication to the treatment of diabetes are linked to limited geographic access to some healthcare intervention by minorities.

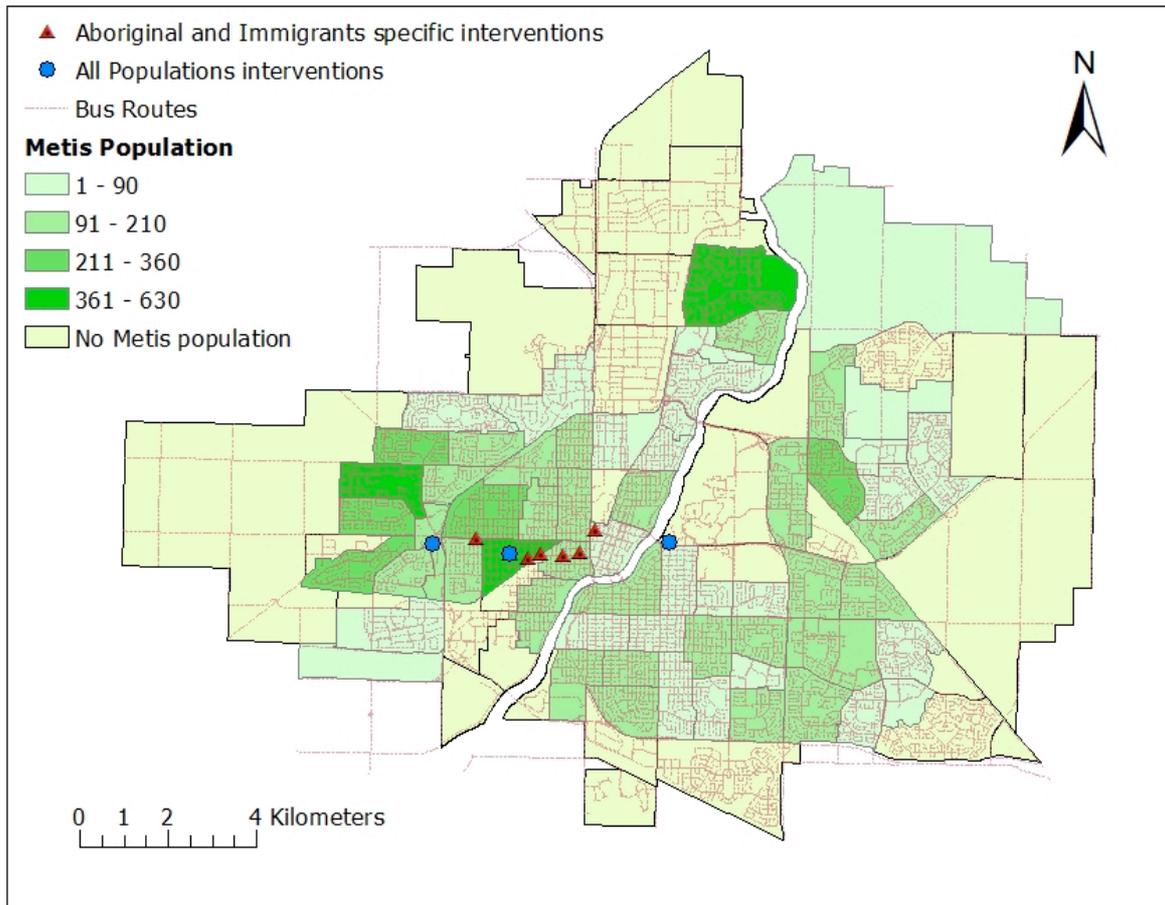


Figure 3: Diabetes healthcare interventions in Saskatoon and absolute Métis population by neighborhood using the 2011 Census

Source of Métis population data: Statistics Canada 2011 Census

In Figure 3, a cartographic diagram of the distribution of diabetes healthcare intervention programs, Saskatoon transit bus routes, and the total Métis population (absolute number of Métis) by neighborhoods in Saskatoon are presented. From the mapping, distances from the locations of diabetes healthcare interventions to Métis residences were found to vary. The patterns revealed that spatial accessibility to some of the community-level diabetes healthcare intervention programs and services may be a hindrance to some Métis partly because these programs and services were clustered at the southwestern part of the city, which are at some distance from some of the areas with larger Métis populations.

A number of factors, including socio-economic status, could be used to explain the pattern observed between neighborhoods with higher Métis number of residents and the location of healthcare interventions. One distinct feature of many cities in western Canada is that they

have high higher proportions of Aboriginal populations than those in other parts of Canada (Statistics Canada, 2003). This pattern is also evident in Saskatoon. Close to 13% of the central city population is Aboriginal and in the neighborhoods with high Aboriginal density, particularly on the west side of the South Saskatchewan River as compared to the east side. While most neighborhoods in the west have low socioeconomic status, the east side has generally been classified as prosperous with its residents having relatively high socioeconomic status (Findlay, Holden, Patrick, & Wormith, 2012). It is also important to state that not all the neighborhoods in either the east or west have high and low socioeconomic status respectively. For instance, some neighborhoods in the east such as Grosvenor Park and Sutherland are classified as having low socio-economic status.

In Saskatoon, a significantly higher number of Aboriginal people living west of the city suffer from higher levels of socio-economic disadvantages such as low educational attainment, low labor force participation leading to high levels of unemployment, poorer housing and low income among others (Statistics Canada, 2003, 2012). Low socio-economic status of people have been linked to increased rate of diseases such as diabetes (Sharma, Palmer, & Rodd, 2012). It is believed that the Aboriginal people are the worst affected population. Since most of the Aboriginal people are located at the west of the city, it is not unreasonable that most of the interventions are located in this area.

Overall, with the exception of the intervention program found at the Royal University hospital (a non Aboriginal specific diabetes program), which is located in the central part of the city, all the other diabetes healthcare intervention programs, including the community-level interventions, are located on the west side of the city where the majority of the neighborhoods containing Métis population are located. Yet, it is readily apparent that the distribution is sub-optimal for maximum access by the city's Métis people living with diabetes. In some instances, the intervention programs are located within neighborhoods where the total Métis population falls below 200 people. This may mean that the local potential clientele is somewhat limited. However, it is important to note that this may be higher for First Nations populations in these areas, which was 11,755 for First Nations with single identity; 9,915 for First Nations (Registered or Treaty Indian); and 1,810 for First Nations (not a Registered or Treaty Indian) (Statistics Canada, 2012). Nonetheless, these locations do not correspond well to the broader pattern of the Métis population by neighborhood.

The map also reveals that many Métis live a considerable distance away from the nearest diabetes healthcare interventions. For example, whereas some neighborhoods with larger Métis population are located in the northwestern part of the city (areas with relatively higher socioeconomic status compared to southwest), the diabetes intervention programs and services are clustered in the southwest. This is true of Silverwood Heights, a neighborhood of higher Métis number of residents located in the northwestern part of the city. This implies that Métis living in the neighborhoods located at a distance from the programs with no private transportation and inadequate access to Saskatoon public transport (Saskatoon Transit) could face limited access to the programs and services. Notwithstanding, the map shows that neighborhoods with higher Métis number of residents have adequate transit routes. However some participants decried the frustrations they go through with the public transport system before they can access the healthcare interventions. For instance some cited changing 3 or 4 buses before they access an intervention program²¹. Indeed, none of the intervention programs selected for this study is located in a neighborhood classified as having the highest absolute number of Métis population (301 to 630 people). This pattern undoubtedly might have some effect on the access and utilization of diabetes healthcare facilities, perhaps with Métis living with diabetes who reside close to these interventions being more likely to access and utilize interventions quicker than those residing farther away from the facilities.

These patterns observed in figure 3 raise questions as to the extent healthcare practitioners and organizations involved in developing diabetes intervention programs consider the location of Métis in the city when developing a diabetes healthcare intervention. Again, the patterns revealed are indicative that geographical access to the intervention programs and services can be an issue for people living in neighborhoods far from the interventions who may lack their own means of transport, coupled with inadequate public transit.

The current trend where almost all the existing diabetes healthcare interventions are concentrated on the west side of the city may stem from several factors. The first may be that the programs, while targeting Aboriginal people in general, are more specifically aimed at First Nations people, who are found in large numbers in the vicinity of the programs, rather than the Métis, who, as we have seen, may be more spread out. The second may be that there

²¹ See barriers or challenges to the provision of diabetes healthcare intervention at page 96.

is a general impression that most of the Aboriginal people in Saskatoon reside on the west side, and that the relatively constrained corridor occupied by these programs has a high concentration of Aboriginal people²². Indeed, the residential location of Aboriginal people was the reason cited by healthcare practitioners for the locations of the interventions. Moreover, this area also constitutes a part of the city where traditionally high material and social deprivation exist²³. As such, a focus on food security may be especially welcomed. Whatever the reason, however, the spatial analysis suggests that the existing distribution pattern of diabetes healthcare interventions in Saskatoon is a poor fit for the city's Métis people living with diabetes requiring healthcare for diabetes treatment.

4.3 Summary

It was revealed from the analysis that there are five main diabetes healthcare intervention programs in Saskatoon. However, only two out of these five programs are specifically designed for minority populations (Aboriginal peoples and immigrants). Each of these two has a series of unique activities organized under them. While Métis living with diabetes were found to be patronizing the two healthcare intervention programs, none of the intervention programs can be considered Métis specific. The geographical distribution of these interventions indicates that most of them are located outside neighborhoods with higher Métis population density. This brings to the fore the question of accessibility, which was further corroborated by the interview data. The next chapter explores the cultural competency of these diabetes interventions with respect to health knowledge, care, and Métis culture.

²²See http://www.justice.gc.ca/eng/rp-pr/csj-sjc/crime/rr06_6/fig78.html. (Accessed on September 17, 2014).

²³See <http://www.phac-aspc.gc.ca/publicat/cdic-mcbc/33-3/ar-05-eng.php>. (Accessed September 11, 2014).

CHAPTER FIVE

DIABETES HEALTH KNOWLEDGE, CARE, MÉTIS CULTURE AND HISTORICAL EXPERIENCES

Chapter 4 described the diabetes healthcare interventions in Saskatoon, locations and spatial accessibility. The available evidence suggests that there is a positive relationship between knowledge of availability of culturally competent healthcare intervention for illness and actual health seeking behaviors (see Eggington, 2012; Macaulay et al., 2003). In other words, when people affected with certain diseases know that they could obtain treatment that is appropriate to their culture, they are motivated to seek care, barring socioeconomic and physical constraints. This chapter provides detailed results from the interpretive phenomenological analysis of the qualitative interviews conducted for the study. In this chapter, first, participant responses on their past health recollections, knowledge of diabetes and healthcare are presented; second, traditional Métis culture, historical experiences and diabetes healthcare interventions are outlined. Finally, participants' views on barriers/challenges to Métis diabetes healthcare are presented.

5.1 Past health recollections, knowledge of diabetes and diabetes health interventions

The current trends of diabetes within the Métis population cannot be fully understood without tracing the experiences of participants go through. As part of this study, participants living with diabetes were asked about their experiences on issues that influenced their decision to access the diabetes interventions. The stories shared by participants were situated in a historical context as they reflect the economic, social and cultural changes that have taken place in Métis society. In the following sections, I present the stories of participants living with diabetes as they concern the historical context and knowledge of diabetes. The themes identified are: (1) past health memories; (2) previous knowledge and awareness of diabetes; and (3) knowledge and awareness of diabetes healthcare interventions.

5.1.1 Past health memories

Many explanations have been given concerning health disparities existing between Aboriginal populations in the past, and why they get sick with diabetes. To this, the participants living with diabetes shared their health experiences in the past, and the factors

that might have contributed to the prevalence of diabetes among their population. Here, the aim is to place and understand diabetes in the context of peoples' memories of lifestyle, culture, and environment. As a result, most of the participants living with diabetes agreed that as a society and as individuals they had in the past been healthy. The memories shared, however, were connected to past traditional and cultural lifestyles. A participant noted:

I remember growing up; we had absolutely no sickness at all in our community. I was very healthy so was my only brother. We were very strong you know. ... we usually will accompany our Dad to go for fishing and to work on the field. My parents were so much concerned about our health. ...I don't remember seeing people being sick in my family unlike these days...No I don't remember. We were healthy (Alex).

Added to this, some participants also explained why they had good health in the past. However, they explained that specific cultural changes resulting in lifestyle changes in their communities might have accounted for poor health of Métis in recent times. Most of these stories focused on diet, and changes in physical activities. For example, two participants living with diabetes, who were over age 55 readily, recall their families relying on wild foods during their formative years. Additionally, they also identified changes in physical activities and diet, as the cause of poor health among the Métis population:

Actually, I don't remember being sick in the past. I have been asking myself why my people [Métis] are not healthy these days...we don't get the food we used to eat in the past. ...when I was young, we got meat from snares, we always had fish in the house... These days, the only foods readily available in our communities are the fast foods, which are not too good for our health. We lack daily physical activity, especially if you live in an urban center like Saskatoon. (Rosemary)

...well we ate good and nutritious food in the past. ...there were fishes, berries, and meat. I don't remember anybody going hungry in that house. In the fall, we had a lot of these stuffs. I remember my parents storing them for the winter months. I follow my father almost every evening to the field and for trapping. ...so you see we ate good food and engaged in a lot of physical activities. (Rob)

Throughout the interview, when asked about issues concerning past community and personal health, Rob reflected on how they gathered traditional foods in the fall for the winter. He also spoke on his past health and expressed his regret about how the traditional Métis lifestyle has changed over the years. He commented on how modernization has disrupted most of their traditional lifestyles, which made them healthy in the past. He attributes the current deterioration in Métis health to the loss of their traditional cultural practices, value systems,

and beliefs. This evidence is in line with the assertion that the emergence of diabetes and the current state of health among First Nations could be attributed to cultural change (Dyck et al., 2010).

In circumstances where the cultural practices and traditions of a community is infiltrated by another culture, most of the practices under the former are likely to be virtually rendered ineffective in exercising their functions (Waldram et al., 2006). Therefore, cultural change phenomenon and its impact on community health, which is as a result of modernization, apply to a number of Métis communities in Canada. It is important to note that the change was not benign, but rather it was forced on the people under colonization. The implication is that there has been gradual loss of Métis cultural and traditional practices in most communities making them susceptible to lifestyle diseases such as diabetes. This conclusion also backs existing body of knowledge from Canada that in spite of the importance of Aboriginal traditions and cultural practices, most people in the present generation of Aboriginal people are inclined towards the Euro-Canadian practices (Bartlett, 2003; Bruce, 2000l).

Varied views were expressed about the diseases, which affected people in their communities in the past. While most of the participants living with diabetes recalled a healthy past, the diseases which some of them mentioned as suffered by their family in the past differ significantly. The participants who were older (63 or older) mentioned that they never heard of diabetes in their families in the past. They mentioned diseases such as diarrhea, flu, tuberculosis and smallpox. Conversely, their relatively younger counterparts cited diseases such as cancer, diabetes, and hepatitis as those that existed in their families.

... Growing up the only disease I heard of in my community was smallpox and tuberculosis. This was the only thing. It is amazing how these days I hear about diabetes and cancers. Many people are dying younger than in the past. (Sarah, 63 years)

... My mum and Dad have the disease [diabetes] so I guess it is much of a family disease. I was not surprised when I had it. I have other family members who suffer from other diseases such as cancer and hepatitis. (Rebecca, 30 years)

Some participants attributed this change in the pattern of diseases affecting the Métis people to the rapid change in their culture, which has caused changes in traditional activities and diet. This revelation points to the assertion that changes in diet and traditional lifestyle to a

grater extent explain the diabetes situation among the Aboriginal populations in Canada (Bruce, 2000).

Therefore, adherence to cultural practices and traditions has been advocated as a way of preventing diabetes, since it serves as a means of increasing the physical activity level and providing a healthy diet for the for the Métis people. The quotes below illustrate how Rosemary and Rob perceived the contribution of culture to their health:

We did not have any sugar disease [diabetes] or any disease like that because we engaged in cultural and traditional activities. These activities ensured that we have high quality of health. It also resulted in improved management of the health of people. Apart from accidents, people grew older and died a natural death. ...it was not until the residential school era that people began to be sick. You know the residential schools disrupted our traditional practices. It made our people [Métis] sick.
(Rosemary)

... they called it [diabetes] the disease of the Whiteman. ...and that was the name most people used when referring to diabetes. But I tell you what, we did not have many people affected by the disease. We engaged in fishing, trapping, working in the field and other activities, you know. (Rob)

The adherence to traditional cultural practices contributed to the absence of lifestyle diseases, such as diabetes among the Métis people. Therefore, the emergence of sedentary lifestyle diseases such as diabetes can be linked to concomitant alterations in lifestyle, particularly change in diet and patterns of physical activity. The changes in diet meant that people no longer engage in physically demanding traditional activities for their sustenance. Another striking finding relates to some of the names participants living with the disease used in reference to diabetes. Some of the terminologies used include ‘sugar disease and Whiteman disease’. This finding is in line with the arguments concerning the recent origins of the epidemic. It is argued that the origin of the current diabetes trends among Aboriginal peoples is fairly recent, and could be attributed to the changes to the traditional lifestyle of the Aboriginal people (Dyck et al., 2010; Young, 1993, 1994; Young, Reading, et al., 2000).

5.1.2 Previous knowledge and awareness of diabetes

In their accounts of the events surrounding previous awareness of diabetes, participants of the study living with diabetes told stories concerning their diabetes situation pointing to their knowledge and awareness of the disease. From the data obtained for the study, two issues

were derived. First, some participants indicated that they knew about diabetes before they were diagnosed. For some of these participants, they learned a lot about the disease before they got diagnosed because they heard the disease exists in Canada, and predominantly among the Aboriginal populations:

I knew about diabetes before I got diagnosed with the disease. I heard it was a problem among the Aboriginal people, but I never took it serious until a friend who had the disease got his foot amputated. ...so I got serious about it [diabetes], and wanted to know more. I read a lot about the disease, its complications, and how to stay healthy through diet and physical activities. This was long before I got diagnosed. Due to all the information I have about the disease, I try as much as possible to eat healthy and stay active after my diagnosis. (Mary)

Additionally, some participants felt that their efforts to obtain information about diabetes were borne out of their initial fear of the disease. Some indicated that prior knowledge of diabetes prevented any fear they might have had when they were first diagnosed with the disease. For example, Rosemary described an occasion on which she went to the clinic for her laboratory test results when she was told she had the disease. In sharing her experience, she indicated how she never panicked after the health practitioner told her the news, because she knew about the disease. Throughout the interview, she felt that having prior knowledge about diabetes is important for everybody. She also indicated the sources where she obtained her information.

...I will say it was out of fear...when I heard Aboriginals were vulnerable, so I wanted to know about the disease and its management. I got to know about the disease through my friend and thereafter I began reading about it. That's how come I got to know a lot about the disease before my diagnosis. (Rosemary)

Given the dire complications associated with diabetes, the rapid education of people is seen as an important step towards reducing the incidence of the disease, eliminating fear associated with the diagnosis, and lessening the complications associated with diabetes among the people living with disease. However, the participant's reference to the word of mouth is interesting. This seems to be suggesting that diabetes education programs may not have the desired effect healthcare practitioners would hope for, and that word being passed along second hand may be vulnerable to misinformation (Cooper & Kar, 2014). Perhaps Métis oral tradition can be used in another way by strengthening the peer leader component of the program.

Furthermore, one of the challenges to diabetes education, especially in countries where the disease is most pervasive, is a lack of knowledge about the disease. A few of the participants noted that they had no knowledge about diabetes prior to their diagnosis. These participants indicated that it was after their diagnosis that they started seeking information about the disease. Joe told a story of how he heard people talk about diabetes some time ago, but did not pay attention to the disease until he was diagnosed.

No one talked to me about diabetes education at all, I didn't pay attention to diabetes previously...I actually got to know more about the disease and how to stay healthy when I was first diagnosed. It was that day that I said to myself that 'hey look it's real I have the disease so I got to stay healthy'... from that day, I started seeking information about the disease. (Joe)

Joe believed that perhaps he was diagnosed with diabetes very late. This was because he felt that he started experiencing the symptoms of the disease long before his diagnosis. He recalled times when he felt very tired and experienced numbness in his feet. He felt sorry for himself when he got to know that that part of the body could be amputated among other complications associated with diabetes.

Other participants went on to tell stories about their health in the past and how they never got specific information about diabetes in their communities. One participant living with diabetes explained that the first time she got specific information about diabetes was during the early 1990s, when she moved from her community in northern Saskatchewan to Saskatoon.

I only started getting information about it [diabetes] when I got here [Saskatoon] in the 1990s. ... not too long after I got diagnosed with the disease. (Mary)

She also described her past lifestyle and experiences with alcohol. She felt that if she had knowledge about diabetes, risk factors and its complications, she would have quit her excessive alcohol intake long before her diagnosis. She indicated that this could have saved her from diabetes. Although some of the participants noted that they did not have previous knowledge and awareness of diabetes – risk factors, symptoms, and complications, -these participants demonstrated knowledge about the disease. They indicated that they learned about the disease from the health centers and intervention programs after they were diagnosed.

At one of the diabetes educational programs, which that I participated in as an observer, some participants involved in this program were seen during a brainstorming session, demonstrating their knowledge on diabetes. As a result, some of the frontline healthcare

practitioners felt that diabetes knowledge and awareness would increase if the educational intervention programs were expanded to many other Aboriginal communities. Such optimism could be borne out the positive impact the educational program is having on the knowledge and awareness of diabetes and diabetes healthcare intervention programs.

5.1.3 Knowledge and awareness of diabetes healthcare programs

The level of knowledge and awareness are important to the prevention and management of diabetes. Participants were therefore asked about their level of knowledge and awareness of diabetes healthcare interventions in Saskatoon. This is not surprising as all the study's respondents were participants of one or more intervention programs. Generally, participants were cognizant of at least one diabetes healthcare intervention program in Saskatoon. Most of the interviewees were regular participants in some of the intervention programs, to which they were introduced after their diagnosis. This point is encapsulated by a remark made by one of the participants living with diabetes:

... I know of some of the diabetes intervention programs here [Saskatoon]. I was introduced these programs after my diagnosis. ...Initially I was receiving treatment and counseling at the Clinic before I got introduced to this program. (Rob)

Another participant living with diabetes spoke about her awareness of an intervention and the kind of activities organized there. She also indicated the importance of this program in helping maintain her health. The comment by this participant also indicates the importance of the community peer leaders to some of the program.

I, I got to know about some of the interventions through one of the peer leaders. So I said to myself that I'd try them, where I feel welcomed and find it enjoyable, I'll stay. ...yeah and it's amazing how this program has helped me maintain my health. (Sarah)

The statements made by these participants indicate the knowledge and awareness of the diabetes healthcare interventions in Saskatoon. Sarah indicated that she found the program enjoyable and welcomed because of the traditional dance and the hospitality she received from some of her fellow participants and healthcare workers on the program. Therefore, she wants to always attend the program. This suggests that feeling comfortable and welcome in a program plays a major role in retention of participants, which in the long term could lead to improved health outcomes (Ho et al., 2006; Macaulay et al., 2003). Additionally, incorporating culture and traditional practices into health interventions could achieve this purpose.

5.2 Traditional Métis culture, historical experiences and diabetes intervention programs

To understand how traditional Métis culture and historical experiences are reflected in the programs studied, participants were asked broad questions concerning issues related to diabetes healthcare intervention and Métis culture and traditions. The data analysis revealed four themes relating to Métis culture, historical experiences and diabetes healthcare interventions. These themes were identified as: (1) ensuring food security; (2) staying physically active; (3) interpersonal communication and identity issues and (4) empowerment to decision making.

5.2.1 Ensuring food security

Food security emerged as one of the major themes that were identified by both frontline healthcare practitioners and participants living with diabetes. This is partly due to the high availability of processed foods in most of the neighborhoods with higher Métis number of residents, compared to the availability of fresh produce and traditional foods. This is because diet constitutes a major risk factor to diabetes. Some of the programs aimed at healthy eating available to Métis living with diabetes in Saskatoon include cooking programs, Good Food Box, and community markets and gardening programs. Most of these programs are aimed at ensuring food security in the neighborhoods with higher Aboriginal number of residents in Saskatoon. The Good Food Box, for example, offers to sell nutritious food to people at lower prices than the prevailing market price. A frontline healthcare practitioner commented:

... the main objective is to ensure that healthy food produce is readily available in the Aboriginal neighborhoods [in Saskatoon]. ... since this is one of the surest way to manage diabetes. (Healthcare practitioner)

Additionally, it emerged that community gardening is used as a means of obtaining healthy produce. It is aimed at providing participants with healthy foods, which are not readily available in the community. Some participants felt that existing community gardening programs elucidates the cultural practice held in the past, where each of the homes in their respective communities had a backyard garden. These sentiments were also confirmed in the review of some of the flagship diabetes healthcare interventions in Canada²⁴. Some of the

²⁴ See the literature review on this at page 37

participants attributed the lack of backyard gardens today in most Métis homes to cultural changes affecting the present generation. Some of the participants observed:

Community gardens have a long history in our community. ...Going back to our traditional ways of life. It has existed for many...many decades...you know we hardly bought vegetables, when I was young. My parents had a garden at our home...and we were getting almost every vegetable and fruits we wanted in the house. (Alex)

... I saw many community gardens in the city when I was young, especially in the Aboriginal communities. My Dad told me a story of how his parents had the gardens too. I will say it has been part of our culture for years. It's a good thing that the program managers are organizing it. It gives us access to our traditional food practices, which are nonexistent in most Métis communities. (Rosemary)

Community gardening also ensures that people who have low income obtain healthy and nutritious foods. A single mother living with diabetes indicated that the community garden activity has provided her the opportunity to obtain fresh produce on a regular basis. She also spoke about how she feels the community garden activity helped her developed her skills, and empowered her to control her diet. The following details her personal experience:

...when I got introduced to the community gardening, I was given a plot of land at the Railside [one of the garden sites]. ...I have access to some healthy vegetables grown on my plot any time that I need it. ...It's a good thing for me because the organization provides us with seeds, transplants and advises. This activity has helped me developed my gardening skills. ...I'm going to be diabetic for the rest of my life so I should able to control my diet and activity level. I think the gardening is helping me do these. (Mary)

A practitioner corroborated this by indicating how they provide support to motivate people living with diabetes to engage in community gardens in their effort to ensure food security, by leveraging their traditional culture. She indicated, "...as an organization, we feel that this will bring back memories of their traditional farming activity. What we do is to provide them with support through the peer leaders by providing them with technical support; volunteers, transplants and seeds, which I think are useful".

One of the participants working with CUMFI spoke about the health benefits derived from the community garden, and indicated that they are making efforts to establish more community gardens in Saskatoon. She indicated:

... We have realized that the community garden is a good way to ensure food security in our communities. We [CUMFI] have noted that there are a lot of open spaces in the communities, which can be converted into gardens. For instance, discussions between

our organization and St. Mary's High school are at advance stage to get them to release a portion of an open space near the school for the establishment of community gardens. This location will give us an advantage to blend both the old and the new [adult participants and school children]. ...and yeah it's a good way of imparting some of our [Métis] cultural practices. ...we would like to see most open spaces in our communities converted into gardens. (CUMFI)

In the view of this participant, it is obvious that food security among other positive health impacts of community garden were the reasons for their efforts to establish additional community gardens in the city. In large part, this is as a result of inadequate access to healthy food by participants living with diabetes, which continues to trigger the incidence of the disease and its associated complications. Comparing the results, it can be seen that community gardens provides enormous health benefits to the participants who are engaged in it. Therefore, when it is well resourced and integrated into diabetes interventions larger number of participants would benefit from it.

However, a number of issues were identified with this program. Non-availability of Métis traditional foods as part of these programs was a repeated critical theme in the interviews with both frontline healthcare practitioners and people living with diabetes. Based on their experiences with some healthcare interventions, some participants living with diabetes reported that little attempt has been made to incorporate Métis traditional foods, such as *tourtière* (meat pie), *boulettes* (meatballs), into the food programs. Some participants felt that some of healthcare practitioners are stereotyping them as generic Aboriginal people because their food programs use First Nation traditional foods in their programming, ignoring the Métis traditional foods. Below is one participant's view:

...I've been on the program for some years now. I don't find any Métis traditional foods here. I feel that if it was part of their policy to add our [Métis] traditional foods, then they should be incorporated. Most of the foods are for the First Nation people.
(Rob)

Generally, participants expressed their resentment on the choice of traditional foods used in the programs. The analysis of the stories from participants living with diabetes revealed that Métis traditional foods are not incorporated into the intervention programs. Even though the healthcare practitioners acknowledged this, they had different explanations for it. The current practices are that organizers of the intervention programs try to incorporate foods, which in their view are "interrelated among [all] the Aboriginal cultures", one practitioner explained. Another practitioner commented that:

We try to incorporate foods, which can be connected to both First Nation and Métis in our cooking activities, since we have not had any Inuit on our program yet. We make use of wild rice, dry berries, and dry meat...a lot of dry foods relate to different cultures. So again we try to balance both First Nation and Métis cultures, because there is nothing [diabetes healthcare intervention] specific for Métis. (Healthcare practitioner)

5.2.2 Staying physically active

The theme of staying physically active occurred throughout the dataset. A variety of perspectives were expressed on this. Some respondents identified community physical exercise and community gardening as a means of staying physically active. In addition to the community garden addressing the availability of fresh vegetables, these participants felt that community gardening could serve as a means of staying physically active through the maintenance of their garden. According to some of the participants, the community garden has increased their activity level resulting in improvement of their health. For example, one interviewee said:

For me, what's more fascinating is that the garden serves as a form of physical exercise for me. I think it is good for my health. Since I started this activity [community garden], my blood sugar level has improved greatly. (Sarah)

Another participant living with diabetes spoke about how he felt active by participating in the community garden: "I usually walk with my eldest son [name] to our garden to work. ...I call this garden a "healing garden" because it provides me a sense of harmony with nature. These alone make me stay active." This participant explained the "healing garden" as a place where he is reminded of some of the traditional Métis cultural practices. Both statements made by these participants indicate the significant role the community gardening program play in managing the diabetes in people through the maintenance of their garden. This assertion implies that in addition to keeping people physically active, community gardens provides contentment and healing to some people living with diabetes.

Also, some of the participants living with diabetes narrated how the physical exercise program has enabled them to stay active and free from some of the complications of the disease. The following details the experience of one of the participants:

...I had feet and finger numbness...I slept on the bus and I miss my stop coming back home. I ding the bell and it's like I am two blocks past my stop...so I had to walk back [laughs]. But since I started the exercise, I am surprised at how well my hands and feet have improved. (Rebecca)

Additionally, talking about staying physically active, some participants were observed engaging in physical activities designed to enable them to stay physically active. The various physical activities organized include: exercising on a treadmill; light weight lifting; walking; and dancing (jigging). Some participants identified these activities as some of the physical activities, which keep them physically active.

Comparing the various forms of physical activities, participants identified a Métis specific related activity, which I participated in during my entire fieldwork. This program offers Métis jigging as part of their programming. This was associated with the program at the St. Mary's Educational and Wellness Center. One healthcare practitioner commented on how they collaborate with St. Mary's School to offer Métis jigging as part of the physical exercise program.

St. Mary's School was organizing jigging lessons for children and adults in the community, which was well patronized ...our physiotherapist [name] told us to talk to them so we spoke to them and they agreed to add our physical exercise program to the jigging lessons. We have a lot of Aboriginal people participating, not only the Métis. It's a good exercise too. (Healthcare practitioner)

A number of those living with diabetes interviewed indicated that they engaged in the jigging lessons. One of them described her experience with the jigging program as the most interesting physical activity program she has ever engaged in since she was diagnosed with diabetes fifteen years ago. This was also borne out of her interest in the Métis traditional dance:

...a peer leader told me about it [jigging lessons], and I love it! Anytime I come here I remember as a young girl when my mummy used to teach me how to jig in the house. I do participate in this activity anytime it's on I wish they'll probably organize it everyday. I have so much fun coming here. (Sarah)

Other participants indicated their excitement at the jigging lessons, while others expressed how western culture is taking over Métis culture, but does nothing to improve the physical activity level of the Métis people. As a result, these participants prayed that the jigging lesson be maintained, jigging days extended to include more days, and publicized to attract not only Métis people living with diabetes and the older generation, but also the younger generation who might use it as a way of keeping physically active. It would also be an ideal way of preserving the unique Métis cultural practice.

5.2.3 Interpersonal communication and identity issues

It is imperative that healthcare practitioners communicate effectively to ensure that patients get the proper and effective healthcare. A number of participants interviewed felt that they are comfortable with the healthcare practitioners. These participants indicated that they have cordial relationship with the healthcare practitioners, who are easily accessible. Language was identified as an important component of interpersonal communication. I observed that apart from English no other Indigenous languages were used during all the programs, which participants understood. Nevertheless, while some participant expressed the need for the inclusion Indigenous languages into the intervention others specifically mentioned Michif.

Some of the participants who can speak and understand some Indigenous languages expressed their dissatisfaction as to why practitioners use English as the only language in the programs. Alex recalled his first experience with the program and his expectations.

Although English is used on the programs... when I first visited the program, I was surprised that not even a single Aboriginal language was spoken there. Not even my own Michif... our language is important. I have never come across any of the leaders who speak any of our languages. (Alex)

Alex also described how integrating the language into the healthcare intervention could attract people from the other places to the interventions, other than Saskatoon, where other Aboriginal languages are routinely used. He noted how people who speak these languages (Dene, Cree and Michif) could fully relate to the diabetes lessons. He felt that the existing arrangements place emphasis on Métis in the city (Saskatoon) without corresponding consideration of Métis in other communities outside Saskatoon, who speak and understand other Aboriginal languages better.

In addition, some participants living with diabetes, who could speak and understand Michif mentioned language as a barrier. As one interviewee put it: “I believe that a person who understands only Michif might not attend this program again after their first attendance. ...why? ...because they will find it difficult to understand these people [practitioners]”. As a result, some participants suggested that a Métis diabetes healthcare should have one or two practitioners who are equipped with knowledge of the language. In this way, participants who speak Michif would understand the programs better. As one participant living with diabetes put it:

... there is nobody on any of the programs who can speak our language [Michif]... [but] I tell you what it is much easier for me to understand some of the issues discussed in that language. It would better if each program has at least a healthcare practitioner who can speak the language. (Sarah)

The comment above and field observation for the study suggest that while language is important to healthcare interventions, in almost all the interventions evaluated none of the practitioners could speak Michif. In such instance, there is the likelihood that a participant might be discouraged from participating if he/she speaks exclusively Michif. In some instances, services of interpreters have been employed to achieve this indicator as presented in the conceptual framework. However, none of the healthcare intervention reviewed had an interpreter.

Further, some healthcare practitioners at the various interventions corroborated these sentiments expressed by some of the participants living with diabetes. However, some of them indicated reasons why Michif and other Métis cultural values, such as language and connection to the environment were not used exclusively on their programs. One practitioner indicated that:

We use English to communicate with the participants on our program. As I said ...our intervention was not exclusively developed for Métis. We have other Aboriginal people as well as immigrants attending our program. ...we don't use the language Michif or any other language in particular apart from English. I will say Michif is nearly dead in Saskatoon. One can rarely find people who speak the language. I am Métis, but I cannot speak the language either, and I do not remember anybody I've met who speaks the language here [Saskatoon]. (Healthcare practitioner)

Asked what would happen if the intervention gets a client who is from other parts of Saskatchewan, and is fluent in Michif or any of the Aboriginal languages, this health practitioner responded that: "...actually we have not thought this situation, but I can still raise it with our board and other staff on the program". She further reiterated the need for Métis specific intervention, if Métis specific culture is to be adequately integrated into a healthcare intervention. She noted the difficulties of concentrating solely on a specific culture at the expense of all other cultures.

Since diabetes healthcare requires the services of professionals, quality human capital development is vital for providing technical and supervisory support for healthcare programs and services. However, to encourage communication and improve participant retention in the

program, there is the need for healthcare interventions to have practitioners from the culture of the target population. This is because an issue, which can encourage bonding and interpersonal communication is identity (Tripp-Reimer et al., 2001). In relation to interpersonal communication, Macaulay et al. (2003) found that people from the same cultural group can easily bond (identify) with one another through their language or a traditional practices, which promote interpersonal communication among them. The interviews revealed two distinct ways in which participant establish identity. These are through healthcare practitioners and participants themselves. The main characteristic here is an individual finding healthcare practitioners or clients from the same ethnic group working on an intervention.

The researcher's personal observation and the interviews revealed that diabetes healthcare interventions serving the Aboriginal people in Saskatoon have Métis healthcare practitioners working on them. These people worked in different capacities as frontline practitioners (dietitians or nutritionists, physiotherapist among others) and community peer leaders. Drawing upon the human resource for the healthcare intervention programs, participants appeared satisfied with the number of Métis working with the healthcare interventions. Some participants felt that they feel bonded to the program because of the presence of Métis as healthcare practitioners. This is because they feel they can identify themselves with these practitioners. One of the participants living with diabetes in sharing her experiences indicated how having practitioners from the same ethnic group facilitated her participation in the program.

I didn't want to join the program until I met one Aboriginal [Métis], who encouraged me to attend the program...immediately I bonded with her. I don't know but I am comfortable talking to these Aboriginal health practitioners on the program about my health problems and how I am improving. (Mary)

The presence of other participants from similar ethnic group could create identity, bonding and interpersonal communication, which could lead retention of participants. It is expected that this may also lead to improved health outcome. Narrating his experiences with one of the interventions, Joe said:

...I had Métis and First Nations people that I bonded with so well. We are able to talk about many issues as Aboriginal people...I mean from health to politics. ...Oh not that I do not talk non-Aboriginals, but I am saying we share a lot in common as group [Aboriginal people]. ...it has contributed to my continuous participation in this [referring to the current diabetes program]. (Joe)

As demonstrated by the quote above, the retention of participants in a healthcare intervention is not only facilitated by the ability to identify and bond with healthcare practitioners, but also establishing identity and bonding with other participants from a similar cultural background. Together these results provide important insights into how identity and bonding could create better interpersonal communication.

However, ineffective interpersonal communication more often than not leads to client dissatisfaction and their subsequent withdrawal from attending the healthcare intervention. Mary described an experience with a hospital, before she attended the current intervention program, where she went to seek medical attention for her high blood sugar level. She narrated how she felt overlooked by the healthcare practitioners there. She noted that after that experience she decided to stay at home rather than attend the hospital again for her treatment. This resulted in some complications until she was introduced to the current program. She described how she bonded with other Aboriginal people on the program.

I remember I got ignored at one hospital. ...I had gone to seek treatment for my sugar levels. I stayed at home, until I was introduced to this place [referring to the current diabetes program]. On my second day at the program, I was introduced to Métis woman, that day I felt that this program was developed for us [Métis]. (Mary)

As the quote demonstrates, healthcare for people involves both the treatments as well as effective interpersonal communication. For this participant living with diabetes, lack of proper interpersonal communication represents the most personal challenge to seeking healthcare. Also, promoting interpersonal communication could promote community participation in decision-making. This would be reported on in the section below.

5.2.4 Empowerment for decision-making

Alongside efforts to prevent T2DM and its associated complications through changes in lifestyle, an important theme that emerged was empowering Métis to participate in the decision making process concerning the healthcare intervention. A recurrent issue raised in the interviews was a sense amongst interviewees that most interventions allow communities to participate in their decision making process. Some of the participants spoke about the past historical experience, including marginalization of the Métis people, and how this has been incorporated into diabetes healthcare intervention programs. A frontline healthcare practitioner working with one of the healthcare interventions spoke of how they actively engage the community in their decision-making processes.

...because of the era of colonization leading to marginalization of the Métis people. What we try to do is to empower them to make contributions and suggestions to our program. We try as much as possible to inform participants about any changes made to our program and solicit for the views. I believe that this form of community engagement is a good step to addressing the historical experiences of marginalization of the Métis in deciding on issues, which affect their welfare and health. (Healthcare practitioner)

The role colonization plays in the health and well-being of Métis people is enormous. To the Métis people, their health is influenced by colonization and its effects of marginalization leading to discrimination and failed attempts of cultural assimilation. One participant remarked:

In the past, Métis were discriminated and were called all sorts of names. ...they were constantly abused and faced social maladjustments. These can be traced to past history of the Métis people. The people were forcibly taken into schools where they suffered loneliness, and fear. These are part of our history as a people. With these in mind, at our programs we plan to make our clients comfortable. We ensure that they participate adequately in all the decision-making processes at their own will. In a way, this also gives them confidence to freely decide on their health choices, and participate in the program. ...they are included rather than being marginalized. (CUMFI)

This revelation suggests that although Métis were discriminated and marginalized in the past as part of their historical experience, the right of Métis to equally partake in decision-making is now stressed. However, some authors have argued that colonization itself is an ongoing process, and that its effects are far from over (Bartlett, 2003; C. Reading & Wien, 2013).

Linked to the historical experience and marginalization is the history of residential school system. Some participants spoke about the stories they have heard from the residential school system during informal conversations. The comments recorded as part of my field notes point to the discrimination of the Métis people in the past with tragic consequences and even death due to poor health. Nevertheless, most of the participants living with diabetes felt that by engaging them to take decisions on issues affecting the program, points to the fact that the program directors were incorporating their past experiences. These examples of inclusion inspire hope for the future diabetes healthcare intervention programs, but the provision of these interventions are not without challenges. The next section demonstrates the barriers/challenges to providing diabetes healthcare.

5.3 Barriers or challenges to the provision of diabetes healthcare intervention

The participants identified numerous barriers/challenges to Métis diabetes healthcare. Some of the barriers identified include access to healthcare interventions; lack of commitment to use Métis traditional teaching approaches; lack of supports²⁵; limited funding opportunities; short duration of funding for programs, and unsatisfactory coordination between Métis organizations. Although the participants identified different barriers/challenges to be associated with their specific groups, some of the barriers/challenges were similar for all the participants. For example, participants living with diabetes and the frontline healthcare practitioners identified high levels of poverty among some sections of the Métis population. These barriers can be categorized under cultural and non-cultural barriers.

5.3.1 Cultural barriers to the provision of diabetes healthcare

The following emerged from the interviews with the frontline healthcare practitioners as the some of the key cultural barriers to diabetes healthcare interventions. Some of the participants living with diabetes identified the ethnic composition of the participants in some of the programs as a barrier. The presence of people from the same ethnic group participating in an intervention program creates identity, attraction and encourages bond formation between participants and could increase participant retention. When a participant cannot identify people from same ethnic group on an intervention, it may lead to disaffection. A participant told her experience on this:

... I think now the program is opened to a lot of immigrant people. It has made the program large and all that. It's difficult for me to bond with these new participants [immigrants]. ... Sometimes you speak English and they do not understand so you have to speak slowly...so I said to myself why the Aboriginal people are not participating in the program, what happened? Then I started staying at home. (Mary)

In a similar context, another participant living with diabetes indicated how some of her friends have stopped participating in one of the programs because of the presence of large numbers of non-Aboriginal people (immigrants) in the program.

Some of my Aboriginal friends feel that the numbers of the new people outnumber them [Aboriginal people] and that is why they do not come out in their numbers for the program again like they used to at the beginning of the program. However, I try to

²⁵ This is in the form of incentives such as bus pass subsidy and childcare support.

encourage them to attend. We still the same group...we still exercising you know nothing new nothing different. (Rebecca)

Generally, most of the participants appeared dissatisfied with the number of immigrants in some of the programs. In a similar context, Mary indicated how some of her friends have stopped participating in one of the programs because of large presence of people who are not Aboriginals. Participants, however, indicated that there was substantial number of Aboriginal people working as healthcare practitioners on the program.

However, the expansion and diversity of the population in Saskatoon always come to the fore when rendering healthcare services. To this, some frontline healthcare practitioners indicated that the combination of Aboriginal and immigrants on one intervention program was done deliberately as an initiative to promote social integration and social cohesion as the social diversity of Saskatoon increases. As one of the participants said:

...well I'm learning for the first time that the combination of both Aboriginal and immigrants on this program hinders any person from participating. You know Saskatoon is getting diverse so we combined both the immigrants and Aboriginals on the program as a means to achieve social cohesion. ...the funding for diabetes interventions is also limited so if you obtain funding that is not exclusively for Aboriginal healthcare, you can't ignore the other populations. (Healthcare practitioner)

This evidence is in line with the assertion that in times of inadequate healthcare facilities for specific populations, healthcare practitioners are forced to combine different populations on an intervention (Delphin-Rittmon, Andres-Hyman, Flanagan, & Davidson, 2013). Therefore, circumstances in which funding for Métis diabetes healthcare is limited calls for the combination of different groups on a program. Participant observation revealed that this applies to some community-level diabetes healthcare activities in Saskatoon. The implication is that Métis specific healthcare intervention is limited.

A useful way of addressing this barrier is that programs needs to be Métis specific due to the need and number of Métis in Saskatchewan. It was evident from the study that healthcare practitioners do not often realize or understand the need and inadvertently implement program policies that indirectly marginalize rather than integrate or make decisions driven by lack of funds. This informed my interest to ask the participants what alternatives they may suggest within the limited funding and resources available. Both healthcare practitioners and participants living with diabetes suggested using a "day specific approach". This is where

separate days are set-aside for each of the groups participating in the program, in this case the physical activity programs where this issue came up. The participants also suggested that the program adopts a Métis specific health intervention.

Some participants also noted that Métis cultural foods and Métis traditional teaching approaches in the intervention programs, particularly when dealing with healthy eating and living educational programs, are missing. For example, some participants felt that if the food intervention programs are to have significant influence on dietary lifestyle among Métis living with diabetes then healthcare practitioners must incorporate traditional cultural foods of the Métis such as potatoes, turnips, and pumpkins. Some of the participants narrating their experiences indicated:

...I have noticed that none of our [Métis] traditional food is used here [referring to the food programs]. Our foods such as potatoes, turnips, herbs, and pumpkins are healthy and important to us you know. I believe people will support it when they are incorporated into the intervention. I tell you what; this would encourage dietary change a lot. (Sarah)

... In reality, the program does not pose a challenge. The challenge I suppose is the lack of our [Métis] teaching approaches in delivering the educational programs presents challenges to Métis diabetes interventions. You know traditional teaching methods such as stories telling works better. Currently, however, this is lacking in the programs. (Joe)

Taken together, these results provide an insight into the importance of Métis place on their food and traditional teaching approaches. These suggest that healthcare intervention that incorporates Métis traditional cultural practices is likely to increase participant retention and improved health outcomes.

Turning now to barriers relating to community garden program, there was disquiet among participants about the program, notwithstanding the benefits derived. From the data obtained, two main issues were identified. First, the type of crops grown and size of the land allocated to the participants was a recurring concern. The researchers' personal observations at one of the sites for the community gardening are consistent with what was expressed by participants:

All the food we grow here are mainly mainstream vegetables. ...no, I don't see crop Métis related such as turnips, herbs, and pumpkins. Another thing is the size of the plot of land for each person. Mine as you can see is too small...there is no room for the expansion of my garden [and] it's far from where I live. (Rosemary)

In the past Métis have planted vegetables such as potatoes, turnips, herbs, and pumpkins among others. Community gardens for Métis could be developed focusing on some of these crops. Currently, the managers of the community gardening program allocate a plot of land (about 100 to 150 square feet) to people who are interested in program. As a result, some of the frontline healthcare practitioners felt that community garden could improve diabetes health outcomes and its sociocultural benefits maximized if the sites for the gardens are expanded to many other neighborhoods with higher number of Métis residents to ensure that larger plots are allocated to individuals.

Second, participants commented on the impact of winter months on their gardening activities. During the winter months, the gardening activities come to a halt because of the cold and the snow. Some of them indicated that this reduces their activity level, which affects their blood sugar level. One participant surmised:

Even though I control my sugar intake and engage in exercises, I realized that during the winter months, my sugar level rises, because the garden activities come to a halt. This gives me a lot of complications that I don't experience when I engage myself in gardening. (Alex)

Field observations were consistent with the views expressed by participants. In late November 2013, I observed that almost all of the participants had stopped planting because of the winter. At this time, the only source of physical activities was the physical exercise programs. However, unlike the gardens, participants cannot attend the physical exercise programs on their own schedule. This is because these activities are organized on specific days and times. Also, apart from the reduced levels of physical activity of participants, there were no fresh foods from the gardens, which could also impact negatively on their health. The healthcare practitioners confirmed that indeed the physical activity levels of participants in the community garden are reduced in the winter months. At least one healthcare practitioner alluded to this. In my field notes the following comment was recorded: "...in all these I feel Métis are not adequately catered for, when it comes to diabetes healthcare. I have heard complaints about winter and the community garden activity, but its nature; we have no control over it. However, I think we can increase the activity level of participants if we have diverse culturally appropriate activities for them, especially during winter. ...it might help you know"

5.3.2 Non-cultural barriers to the provision of diabetes healthcare

During the discussions participants living with diabetes identified geographical accessibility to the healthcare interventions as a barrier. This is consistent with the basic geographical analysis carried out in the previous chapter. Some participants expressed the frustrations they go through in order to access some of the interventions, because they have to rely on public transportation. Some participants indicated that there were many occasions where they refused to attend the programs because they missed their buses. Others indicated that they have to walk long distances to get to the nearest bus stop, and spend longer time in buses before getting to where the intervention programs are located. Talking about the issue of geographic/ spatial accessibility an interviewee said:

I live far from this place [location for one of the programs]. It's a problem for me getting to this place. Sometimes when I miss my bus, I stay home ... it has happened too many on so many occasions. I change about 3 buses before getting here. ... and sometimes its really, really frustrating for me. (Joe)

Another participant, when commenting about her experiences on the struggles she goes through to participate in one of the interventions studied said:

... The distance between my apartment and the nearest bus stop is a huge distance. It is difficult to walk there, especially when the weather [winter] is that bad ...I stay back home. (Mary)

Also, some of the comments from participants in the previous section about community gardens being far from where they live confirms the spatial accessibility as a barrier to the intervention programs. Taken together, these results are seen to be confirming some of the patterns identified in figures 3²⁶, which suggest that some Métis live a considerable distance away from the nearest diabetes healthcare intervention program. Therefore, when an individual has no access to private means of transport coupled with limited access to public transport, geographical access becomes a barrier to accessing the intervention programs. Such situations could lead to apathy and non-retention of participants with its associated health consequences.

While observations made for this study were seen to be consistent with some of the views expressed by some of the participants, some of the programs such as the community markets were sometimes made mobile, and are organized at different locations in the communities at

²⁶ See the spatial analysis at page 74

different times. However, the frequency at which this is done, and the location of some of the programs brings legitimacy to this concern raised by the participants living with diabetes. In a similar context, two healthcare practitioners noted challenges that can be linked to the location of some intervention programs. From the perspectives of the healthcare practitioners, obtaining bigger gymnasiums for physical activity programs is not a problem. One of the healthcare practitioners has this reservation:

We don't have issues [problems] obtaining a gym [gymnasium]. I can tell you there are lots of them around this area. We've partnered with most of them before in our work. (Healthcare practitioner)

The most recurrent concern, however, was the location of the facilities. The data analysis revealed two issues with respect to location. The first was that some community-level diabetes healthcare interventions were located outside neighborhoods with higher Métis number of residents, a situation that has led to the problem of geographic accessibility as indicated by some participants living with diabetes. Some frontline healthcare practitioners attributed this to difficulty in obtaining the right infrastructure in some of the communities for their programs. The observations I made about the location of the facilities are consistent with the views expressed by one of these participants.

I will say there is a problem with the location of the interventions. We should be able to distribute our exercise programs across the communities [but] it's difficult to obtain a bigger place like this [referring to the location of one of the physical activity programs] across the communities. We have gymnasiums around this area, but they are too small for all these participants. This is why the two places for our exercises are located closer to each other. (Healthcare practitioner)

The extract above shows the struggle healthcare practitioners go through to obtain facilities at the appropriate locations in Saskatoon for diabetes healthcare. This situation may partly explain why the community-level interventions were found to be located in the western half of the city.

The other issue relates to the bureaucracy involved in securing a place for some of the activities. Some of the participants at the Métis organization noted that the processes involved in securing an identified location take months.

We want to acquire a recreational center at the heart of the city, because this suburban concept of acquiring recreational facilities in suburban areas for physical activities is not encouraging people to engage in physical exercise frequently. We have been pursuing that for months and months with minimal success, because of the processes involved in acquiring these facilities. (CUMFI)

Several health concerns compete for attention of funding organizations due to the scarcity of funding resources. Due to this overarching concern, diabetes healthcare programs compete for funding from funding organizations, and they are forced to make choices. It emerged that there are limited funding opportunities for Métis diabetes healthcare, and various Aboriginal health issues that compete for funding organizations' attention. This makes it impossible for funding organizations to devote all their attention towards Aboriginal diabetes interventions even though many diseases, such as diabetes, have specific organizations or donors that are inclined to them. A frontline healthcare practitioner contended:

... Like every organization I will say funding dollars is our main problem. At the moment, the funding opportunities for Métis diabetes are not many. ... Readily, I can cite the Aboriginal Diabetes Initiative. Aboriginal diabetes competes with other diseases among the Aboriginal population for funding from other institutions. This means that when we write proposals for funding to let's say Public Health Agency of Canada, we will have others writing for funding for other diseases too ... Sometimes we have to wait and wait with no success. (Healthcare practitioner)

However, competition for funding was not only among various diseases, but also among organization involved in developing diabetes healthcare interventions. Participants identified competition for funding among organizations, especially Métis organizations, to develop interventions for diabetes. There are different organizations, which are committed to developing interventions for diabetes. These organizations compete for the limited sources of funding. A frontline health practitioner explained that:

... why does [mentions an organization] not have their own program? They are Métis organizations, they have applied for funds from Health Canada and the Provincial Health, but they have not received anything in two and half years. This is what they told me; there are no funds at all. Métis, I hate to say are not being catered for, when it comes to diabetes care. There is no program at all. In Saskatoon, there are more funding supports for immigrants affected by diabetes than the Métis population. (Healthcare practitioner)

Added to this were the concerns expressed by staff from CUMFI about the lack of funding for their healthcare programs. Issues mentioned typically dealt with delays in accessing funds, inadequate funding partly due to competition for funding for diabetes healthcare activities among Métis organization.

We have a great difficulty securing funds to run our diabetes programs. We usually go through hell before funds are released to us. For me, it's pathetic... different organizations, especially Aboriginal organizations, as well as other health

organizations compete with us for funding. For instance, fund managers at sometime have to deal with numerous applications. In that case, you know, you have little chance of securing such funds. ... I wish sources funds for Métis diabetes healthcare were numerous and are easily accessible. (CUMFI)

Closely related to competition for funding for diabetes healthcare is the budget limitation, and short duration of funding. Participants mentioned that when their proposals are accepted, in most cases, the funds are inadequate for the full implementation of their program. One practitioner indicated that:

We are hard pressed for funds for this program. There are things we provided as incentives [support] to our program participants, which are no longer being implemented, such as money towards their bus pass because of the funds available to us. Again we have to end our program very soon because the funding duration will expire soon, and we cannot renew it ... but I tell you our program is working so well in the communities. (Healthcare practitioner)

One of the most important essentials of a successful diabetes intervention program is the support put in place to attract and keep participants. This support is introduced to motivate people living with diabetes and, occasionally, people at risk of developing the disease. The field observations revealed that the support packages included a wide range of services such as transport subsidy, childcare, and periodic food supplements. The food supplements are, for example, intended to introduce participants to foods which can address their nutritional needs. Some of the participants living with diabetes indicated that there is lack of supports associated with the interventions. In some cases, while accessibility is hampered by the public transport system, support in the form of public transport subsidy instituted to keep old participants and attract new ones has been curtailed. Some participants living with diabetes explained that:

...like I was saying, previously we enjoyed incentives [support] like childcare support for our children and bus pass subsidy every month [but] all is gone now. There is no support for us so people who have younger children have stopped attending. (Rosemary)

...we had a lot of people who were living at a distance from this physical exercise center. Most of them have stopped attending this program. As a peer leader, you know, I go to the communities to talk to people about this program. I have had people complaining about the cost of transport to this place. ...I will say the bus subsidy was very helpful in keeping people on this intervention. (Mary)

In an interview with a frontline healthcare practitioner on this issue, it emerged that the supports associated with the program were curtailed because of inadequate funding to provide those services. This might have created apathy on the part of some patient clients participating in the programs. One of the frontline healthcare practitioners remarked:

...so yes, it is true that when we started rolling out this program, we were providing supports such as childcare and bus pass subsidy to our participants. We stopped providing these supports a couple of years ago because of lack of funding. I am sure this might be the reason why some people stopped attending our programs, but we had no other alternative. (Healthcare practitioner)

Another barrier identified is the unsatisfactory coordination between some of the Métis organizations in formulating and implementing diabetes healthcare interventions. This is seen as a barrier to pulling resources together, given the challenges faced by the individual organizations to accessing funds for diabetes healthcare. For example, sharing information and coordinating on diabetes intervention programs can help improve the health of Métis living with diabetes.

With no disrespect to any organization but if they want to promote the Métis diabetes rates then they should walk the talk. We tried many times to bring some of the organizations together, but it has been difficult. (Healthcare practitioner)

In line with the statement above one of the participants from CUMFI expressed how they are involved in diabetes healthcare. This participant had this to say:

We are in touch with some organizations in the diabetes healthcare. We do our best to contribute to the success of these programs by encouraging Métis living with diabetes who visit us to participate in those programs. ...we also run our mini activities in collaboration with some organizations in Saskatoon. (CUMFI)

Field observations made at this program were consistent with the views expressed by this participant. The data gathered, perhaps, point to the lack of coordination between Métis organizations in developing diabetes healthcare programs. Some of the participants attribute this situation to many factors; significant among them was the constant staff changes occurring at some of the organizations. This was cited as the bane for the unsatisfactory coordination. For instance, during the duration of study the MN-S experienced numerous staff changes to their health department.

Furthermore, the data analysis, revealed a link between poverty and diabetes health seeking behavior of Métis. The stories from the experiences of the participants living with diabetes

revealed that poverty and poor health are linked through the inability of poor families to afford services essential for diabetes healthcare; inadequate dietary intake; engaging in physical activities and inability to access health services. A major cause of poverty is unemployment or lack of substantive occupation, which results in irregular or no source of income. Both the frontline healthcare practitioners and the people living with diabetes identified similar challenge to Métis diabetes healthcare intervention programs. From the data, both groups expressed disquiet on the rising poverty levels among sections of Métis population in the city as one of the barriers to diabetes healthcare. In relating poverty to the program, one participant expressed her views on how this is impacting some participants of their program.

I guess too many Métis are getting sicker because of poverty in the city. Look we can go to a community and tell them about our food and good food but if they [community members] can't afford it we will not progress in achieving a reduction in the disease and its complications. People live on 50 dollars a month and they are diabetic. How can such a person eat good food? How can we put the theory into reality? ...if we teach people about all these healthy eating and give them the skills and they cannot afford it, what will be the point in what we are doing? A lot of people want to eat healthy, they know they have to eat healthy but they can't afford it. Poverty is a bigger issue. (Healthcare practitioner)

Another healthcare practitioner had this to say on the issue of poverty. She noted how poverty makes some the people living with diabetes unstable in their programs.

We have had people attending our programs, but suddenly you cannot find them. The little checks we've done indicate that some of these people mostly have no proper accommodation or live with multiple families because of their inability to pay for rent. When they move from the address in our records it becomes difficult to trace them. (Healthcare practitioner)

Aboriginal homelessness is seen as a major problem in Saskatoon with many people having no secured permanent housing. Some authors corroborate the statement made by this participant by arguing that high cost of housing and continual rent increases along with the increasing poverty levels among Aboriginal people have created considerable barriers to reliable housing (Findlay et al., 2012; Peters & Robillard, 2007, 2009).

Similar concerns about poverty were re-echoed by some participants living with diabetes. Earning enough money to sustain daily living expenses was a major concern among patient clients. Some of participants indicated how their poverty situation is depriving them of some of the programs organized in their communities.

... sometimes they [community market] come here to sell vegetables, [but] most of the time I had no money to purchase them. (Rob)

The physical activity is good for my health, yeah I know but I can't afford bus passes all the time to this place [at one of the locations for the exercise program]. (Rebecca)

Under the current situation, there are no supports provided for the poor. Accordingly, some respondents living with diabetes indicated that it would seem rational that some measures are instituted to cater for the poor people participating in the programs. This would provide the impetus for ensuring that the participants will participate actively in the programs. This would also ensure their healthy living.

Finally, every disease control venture requires some level of commitment from political leaders. The increasing number of Métis people and the rate at which Aboriginal people are being afflicted by the disease needs attention at this level. Therefore, there were views expressed concerning the level of political commitment to Métis diabetes healthcare. These were mainly in the area of resource allocation for Métis diabetes healthcare. Several issues from some Aboriginal groups compete for the attention of political authorities. Since the Supreme Court of Canada has ruled that Métis enjoy the rights as status Aboriginal people²⁷ my interest was to explore the extent to which Métis diabetes healthcare has received political attention in recent times, especially from the federal government. A participant indicated:

I will confidently say no to that ... yes we have the court ruling declaring us [Métis] as status Aboriginal, but I'm yet to see that ruling enforced. Whenever we are not successful with our grant applications, there is no money that comes in from the federal government for our diabetes healthcare activities. ...although organizations such as the Lions Club of Saskatoon do support us in some of our diabetes health activities. (Healthcare practitioner)

Although the ruling states that Métis should be considered as status Aboriginal people, I think we need to go to court again to enforce this ruling to enable Métis enjoy healthcare funding from the federal government. I always say after the ruling that: 'we are status Aboriginals with no rights whatsoever' ...and nobody can deny that. We are only funded through the provincial government and other organizations (Healthcare practitioner).

Overall, these results suggest that only provincial governments and some few funding organizations commit resources towards Métis healthcare. This is different from what other

²⁷ See Métis people in Canada at page 11

Aboriginal people, such as the status First Nations, receive for their healthcare. Therefore, between Aboriginal populations such as Métis and status First Nation people, participants generally agreed that status First Nation people's health receives more attention than Métis people's health. Again this relates to the treaty agreements and responsibilities, which most First Nations have, but which the Métis people do not. Where treaty exists, the federal government is responsible for on reserve healthcare and NIHB. In some communities the Tribal Councils or Grand Councils have negotiated health transfer agreements that have led to some monies (however inadequate the amount) transferred to these First Nations for the purposes of controlling and delivering some healthcare services to their people,. Even in these cases the federal government is responsible for funding the programs. Therefore, the broad framework of financial commitment towards Métis healthcare, especially diabetes health, will likely require substantive legislation to ensure that the federal government commits resources towards Métis healthcare to compliment what provincial governments are already offering. This would also have implications for non-status First Nation people.

5.4 Summary

The previous sections outline the results of the interview data and analysis obtained from the study's participants. Through interpretive phenomenological analysis of the qualitative interviews conducted, I was able to identify the Métis cultural indicators incorporated into the diabetes healthcare interventions under study. The analysis of the data has revealed many themes. However, the themes can be categorized into two main issues. The first issue relates to what participants living with diabetes remember about their health, and what they know about diabetes. The second issue pertains to Métis culture, historical experiences and diabetes healthcare intervention programs. Also, the analysis revealed some of the barriers or challenges to Métis diabetes healthcare interventions. The next Chapter, therefore, moves on to discuss these findings and their importance to culturally competent Métis diabetes healthcare intervention programs.

CHAPTER SIX

DISCUSSION AND CONCLUSIONS

Diabetes is seen as a major health challenge for the Canadian population especially its Aboriginal populations of which Métis constitute a part (Bartlett et al., 2010). The high prevalence of the disease and its complications requires that effective medical and community-level public healthcare interventions are developed to reduce both the incidence rate and its associated complications. This applies equally to the Métis communities who face a prevalence of diabetes at a rate about three to five times higher than what is occurring in the general Canadian population (Bruce, 2000; Loukine, Waters, Choi, & Ellison, 2012). Even though, there exist extensive literature examining Aboriginal health, little is known about how diabetes healthcare interventions are being delivered to the Métis in Canada.

This is a crucial issue, however, culturally competent medical and public healthcare interventions, those that are sensitive to the culture, history and beliefs people hold are known to produce quality health outcomes, deliver greater patient satisfaction, and may reduce existing health inequities (see Manuel et al., 2013; McNamara, Sanson-Fisher, D'Este, & Eades, 2011; Oster, Virani, Strong, Shade, & Toth, 2009; Panagiotopoulos, Rozmus, Gagnon, & Macnab, 2007; Young & Mustard, 2001). Therefore, in an effort to understand how community-level public healthcare interventions are being delivered to Métis in Saskatchewan, this study developed and applied a set of cultural indicators in the conceptual framework (see figure 1 in Chapter 2, p.47) to informally evaluate the cultural appropriateness of the community-level diabetes healthcare interventions in Saskatoon for Saskatoon Métis. Reflecting on the culture, history, and beliefs of the Métis in Canada, the discussion and implications of the results are discussed in this chapter. This chapter also includes my reflections on the conceptual framework applied and the strengths and limitations of the study. Finally, this chapter presents conclusions, recommendations and direction for future research.

6.1 Diabetes and healthcare interventions

The elevated prevalence of diabetes among the Métis population in Saskatchewan requires that healthcare interventions be developed to address this emerging epidemic. The evidence presented in this study points to the availability of both medical and community-level public diabetes healthcare interventions in Saskatoon. The greatest distinction between medical and community-level interventions is the kind of services rendered. Whereas, medical healthcare interventions are delivered at individual-level, community-level public health interventions are mostly delivered at the “group level” and are seen as primary public health interventions (Davachi & Ferrari, 2012). Of the five main diabetes healthcare interventions identified in Saskatoon, two of them were identified as Aboriginal and immigrant specific interventions.

Unlike the diabetes healthcare interventions, which follow the western model of healthcare treatment (mostly medical), it was realized that healthcare interventions developed specifically for Aboriginal and immigrant populations were mainly group-level interventions. These interventions employ different mechanisms to deliver healthcare to its clients. Some of the current intervention programs in Saskatoon aimed at achieving better health outcome were identified to include physical activity sessions, community gardens, and cooking programs. These programs and services, regardless of which type of intervention program that renders it, could be complementary. On this basis, one cannot categorically tie a person living with diabetes to a specific activity under an intervention program. Rather, patient clients can enroll in one or more activities to help reduce complications associated with the disease. The current study found some participants who had enrolled into multiple programs.

Although physical exercise and food programs were identified with diabetes healthcare intervention programs, the integration of culture and historical experiences into these activities has been identified as the most meaningful way to achieve compliance, participant retention and reduce complications (Howard, 2014). This may also contribute to the reduction of the incidence of diabetes and its associated complications (Delphin-Rittmon et al., 2013). It is believed that when culture is integrated into these activities, it can produce quality health outcomes. However, the study found that most of the study participants were dissatisfied with the present lack of Métis-specific healthcare interventions. This corroborates findings of a study conducted in relation to Métis healthcare interventions in Manitoba. That

study revealed that there was inadequate number of diabetes healthcare interventions in Manitoba to serve the growing Métis population in the province (Bartlett et al., 2010).

Population specific healthcare interventions appear to be better at attracting people and producing better health outcomes than multi-cultural interventions (Zeh et al., 2012). These healthcare interventions developed for specific cultural group which exhibit high risk of a disease are most often developed with the aim of introducing the culture, traditional practices as well the historical experiences of the target group into the intervention (Howard, 2014; Martyn-Nemeth et al., 2010). Such interventions also have the capability of encouraging participation and producing better patient outcomes (Beach et al., 2005; Zeh et al., 2012). However, interventions, which are not population specific, might produce negative health outcomes for patients due to non-compliance. As Airhihenbuwa et al. (2014) noted, healthcare interventions which focus on culture encourage compliance, participant retention and behavioral change from patient clients leading to better health outcomes. The next section discusses how Métis culture and historical experiences are reflected in the community-level diabetes healthcare interventions.

6.2 Métis culture, historical experience and diabetes healthcare interventions

The main goal of this study was to explore the extent to which T2DM healthcare intervention programs/services in Saskatoon are being delivered to the Métis in Saskatchewan in a manner that is sensitive to their culture. In this study, with the aid of the conceptual framework, insights into how Métis culture and historical experiences are incorporated into the healthcare interventions were identified. Some of the themes identified regarding how Métis culture and historical experiences, as language and self-determination are integrated into the community-level diabetes healthcare intervention programs/services could be seen as a part of the proximate social determinants of health among the Métis population. The findings from the study show that although there are no Métis-specific diabetes healthcare interventions in Saskatoon, some of the interventions have indicators²⁸ of Métis culture incorporated into them.

²⁸ See figure 1 in chapter two for the conceptual framework at page 47.

As reported in this study, many of the participants indicated that the improvement in their health was due to their participation in the healthcare intervention programs. Most of the participants living with diabetes stated that the activities helped “improve their blood sugar level.” A systematic review of the impact of culturally competent diabetes healthcare interventions for improving diabetes related health outcomes for minority populations (Zeh et al., 2012), found that the integration of culture into healthcare interventions resulted in a marked improvement in the health status of some of the programs’ participants. The authors concluded that these interventions also ensured an increase in the number of participants.

Part of the reasons why some participants in the present study identified that they had a healthy past was that most of them indicated they were consistently engaged in one or more cultural activities as part of their daily lifestyle. For example, many of the participants noted that their engagement in traditional activities such as working in the field, trapping and fishing helped increase their physical activity levels. These activities impacted positively on their health. In the case of Kahnawake diabetes program, it was observed that changes from the traditional to sedentary lifestyles explained the increase incidence of diabetes (Cargo et al., 2008; Potvin et al., 2003). Other authors have expressed similar concerns regarding how culture improved the health of people in the past. Bruce et al. (2003) observed that culture of Métis people in the past kept them active and energetic. It is argued further that poor health status of the Aboriginal population in recent times is as a result of the involuntary cultural changes and acculturation within their population (Bartlett, 2003).

Further, it is interesting to note that some of the findings of this study support the idea of change in disease and health patterns, where a population moves from infectious and parasitic diseases to sedentary lifestyle diseases as a result of forced acculturation. In this study, participants who were relatively older pointed to diarrhea, influenza, tuberculosis and smallpox as some of the diseases known to have existed in their families whereas, participants of relatively younger ages cited diseases such as cancer, diabetes and hepatitis as diseases that existed in the families. This is suggestive that the various diseases affecting the Métis population today can be linked to lifestyle change. Some authors have attributed this changes in disease patterns to the impact of colonization (Bartlett, 2003). This finding is consistent with those of Oster et al. (2012) who found changes in disease patterns and increasing diabetes trends among status Aboriginals in Manitoba.

While an association exists between diabetes prevalence and lifestyle changes, the influence of acculturation/cultural change cannot be discounted. There have been many shifts in Aboriginal culture and social organization in past (Oster et al., 2012). These have resulted in changes to some cultural and traditional practices thereby affecting the intergenerational transfer of traditions and cultural practices. This presented challenges to their traditional lifestyles and identity with the land. In their wake, Métis have been confronted with cultural changes such as diet and physical activity patterns, and identity. Added to these are the laws and legislation on Aboriginal rights and privileges in Canada. It has been observed that the disruption of the traditional way of life is partly to be blamed for the changing patterns of diseases resulting some of the current health problems including diabetes (Bartlett, 2003).

Some of the topics that emerged when participants living with diabetes were sharing their stories could be tied to creating identities. Most of the participants of the study identified that one of the factors that motivated them to continuously stay with some of the healthcare programs was the presence of people (health practitioners and in some cases clients) from their ethnic group in the program. This is reflective of the cultural and social bonds, which has been described by some authors (example Slean et al., 2012; Tripp-Reimer et al., 2001), as a means of creating mutual trust between patients on one-hand and healthcare practitioners on the other hand. The participants living with diabetes indicated that they are able to establish cultural bonds with Métis healthcare practitioners. This enables them to have confidence to share their health problems with the practitioners. Although such actions do not necessarily have to be lowering the incidence of diabetes within the Métis population in the short term per se, they encourage participants to stay with the program, which may impact positively on their health in the long term by reducing the complications they suffer. Campinha-Bacote's analysis of a model of culturally competent healthcare is useful for making sense of this. Campinha-Bacote argued that a model of culturally competent healthcare is a two-sided health system, with clients on one side, and healthcare practitioners and the services on another side (Campinha-Bacote, 1999, 2002). However, I disagree with this binary position because one of the features of culturally competent healthcare that help to produce better health outcomes is creating environments in which clients and healthcare professionals are being able to establish cultural bonds with each other.

Additionally, the social support received by patient clients of diabetes healthcare interventions programs can be strongly tied to quality and better health outcomes (Saha et al.,

2008; Stewart, 2006), and creating identities. These social supports consist of many factors interacting, such as social networks (friendships) and relationships created by practitioners, which interact to create a sense of belonging among the people living with diabetes. These supports systems could be essential for patient clients to managing and delay the complications associated with the disease. For some participants living with diabetes, being able to bond with practitioners and colleagues creates positive support for them. This is because the relationship with healthcare practitioners is important. They are the people who provide information and administer treatment regimes. In a systematic review of how culturally competent training of healthcare practitioners could improve health outcomes, it was found that when patient clients and healthcare practitioners from their ethnic group are put on a healthcare intervention, it increases acceptance, friendship, encouragement, and mutual respect to the patient to produce better health outcomes (Zeh et al., 2012). In this study, Métis healthcare practitioners were found to be working with the community-level interventions in different capacities.

Notwithstanding this, this finding does not mean an automatic occurrence of improved health outcomes. Other studies have argued that practitioners from the same ethnic group as patient clients should not be ‘half baked’ and be employed for sake of ethnicity, but should have adequate knowledge of the healthcare intervention program they work for (Bhattacharyya, Estey, et al., 2011). Currently, the intervention programs, which the study focused on, have dietitians/nutritionists, physiotherapists, and nurses working as frontline healthcare practitioners. These people are considered as professionals with adequate knowledge on the intervention they are working facilitating.

Interpersonal communication issues, such as having Métis working as health practitioners and others as peer leaders, were significant in this study, and have been proven to affect how patients accept healthcare programs (Delphin-Rittmon et al., 2013). Effective creation of social identities has the likelihood of producing effective interpersonal communication. Increased time without proper communication during treatment on a healthcare intervention may result in increased complications associated with the disease and even death (Crawford & Candlin, 2013). It has been established that ineffective communication, especially between healthcare practitioners and patients can result in increased complications, more deaths and can be dangerous when compared to untreated diseases (Diab, 2012; Seale, Rivas, & Kelly, 2013).

Closely linked to the point above, the results of this study indicate that both participants living with diabetes and healthcare practitioners identified interpersonal communication as an important element in culturally competent diabetes healthcare. It has been described as patients and healthcare practitioners being able to understand each other (Tripp-Reimer et al., 2001). Participants expressed relatively diverse experiences. These experiences highlight the challenges and opportunities created for participants as they seek healthcare for their diabetic situation. Some of the participants indicated the importance of communicating to them in a language they understand. The importance of language to healthcare delivery for minority populations is substantial. There exists a possibility for miscommunication if healthcare practitioners and their clients speak different languages. This has numerous consequences for healthcare service delivery. Therefore, it is expected that the language of the target population be used on a healthcare intervention program (Howard, 2014). However, contrary to this expectation, this study did not find any healthcare practitioner who could speak and understand any of the Indigenous languages (for example Dene, Cree and Michif).

The important role played by the community peer leaders in the delivery of the diabetes healthcare interventions is worth mentioning when discussing interpersonal communication. As a convention instituted under the structure of the community-level diabetes healthcare interventions, some of the participants who have spent at least six months on the program are selected to serve as peer leaders for the programs. These peer leaders are used as “community liaison persons”, who work directly with clients of the programs, both at the programs’ location and within the communities. The peer leaders rely on personal relationships they have established with other participants and their communicative skills to deliver the programs message to participants. Additionally, the peer leaders are involved in advocacy in support of the healthcare practitioners. This observation is contrary to what Zeh et al. (2012) observed from their systematic review that some diabetes healthcare interventions in Canada failed to incorporate the community members in its advocacy. The authors further argued that this impacted negatively on clients’ participation and retention.

As indicated in the conceptual framework for this study, language (Michif) was identified as a significant cultural indicator, which to a greater extent promotes interpersonal communication. In addition, language is recognized as an important determinant of Aboriginal health. To the Métis people, health and well-being is expressed as being able to perform some traditional practices, speak their local language and interact with other

members of their community. This is also seen as socio-cultural and community health, which signify peace with the spirit world (King et al., 2009). For example, to them health means, “being alive well” that is not only determined by the absence of disease (Adelson, 2000). This factor can be linked to the program having staff from the same ethnic group as the clients; participants being able to identify themselves with other participants from their ethnic group and speaking their language.

Also, this could be tied to community involvement in the development of the healthcare intervention programs as identified in the conceptual framework (see figure 1). It is believed that effective interpersonal communication could be achieved when a community is actively involved in the development of healthcare intervention programs and services to achieve the desired health outcome. Although some participants living with diabetes indicated that they prefer that Michif be used as part of the language on the program, based on their recent experiences with the healthcare intervention programs, both frontline healthcare practitioners and Métis living with diabetes indicated that they had cordial relationships. This suggests that most of the current participants understand the language spoken by the practitioners. In accordance to present results, this perhaps confirms the assertion that when health practitioners communicate to patients in the language they understand, it builds their relationships and trust, which have the potential producing quality health outcome (Seale et al., 2013).

Communicating to patients in their language is vital to effective healthcare. Previous studies have clearly shown that using local language is paramount if healthcare intervention is to attract local people to participate in the program (Seale et al., 2013). In this study, findings relating to the use of language however, revealed some concerns about the non-use of local language in the intervention programs. Non-use of local language on a healthcare intervention may occur due to rarity of the use of the language in a community (Eggington, 2012; Saha et al., 2013). This observation was confirmed in my study as frontline healthcare practitioners attributed the non-use of Michif to the “death” of the language among Métis communities in Saskatoon, and the fact that these community-level intervention programs were designed for multicultural groups (both Aboriginals and immigrants).

Even though the most parts of the data for this study partly pointed to the non-use of Michif, it should be pointed that today many urban Métis communities across Canada are

increasingly becoming diverse and “translinguistic”. A majority of Métis in Saskatchewan speak either Cree or Dene and Michif is mostly spoken in some small locales. This is as a result of colonial history and complex family dynamics. Some of these are linked to geographic locations of First Nations and Métis communities as well as policies which disenfranchise First Nation women and men- many of whom became Métis (Métis National Council, 2011). As these intervention programs are not Métis specific, it may be difficult to incorporate Métis specific cultural indicators. Some scholars believe that targeting the language of a particular cultural group on a multi-cultural healthcare intervention has the likelihood of intimidating other potential participants who do not speak the language (Crawford & Candlin, 2013). This situation, however, can affect the retention of participants on the program.

It is interesting to note that in all the findings indicate that no local language was used on the programs either for verbal communication or materials for diabetes education. Therefore, changes such as having frontline healthcare practitioners from different language origin to interpret and instruct can improve access for Métis living not only in Saskatoon, but also from outside the city. For some of the participants living with diabetes, the current arrangement where only English is used as the medium of communication shifts attention to Métis who speak English, but not other local languages. This arrangement fails to consider Métis from other communities in Saskatchewan. Such people are likely to have a difficulty accessing the programs. One of the participants in this study living with diabetes, Alex, who could speak and understand Michif recalled his initial struggles with the language used on the program. He expressed the need to incorporate local language to attract participants from Métis communities outside Saskatoon.

While language as an indicator to achieving cultural competency is important, the contribution of healthcare practitioners to this cannot be underestimated (Bhattacharyya, Estey, et al., 2011). The literature points to the ability of healthcare practitioners, especially frontline healthcare practitioners, to speak the local language of their clients as one of the central components to culturally competent healthcare (Saha et al., 2013). Additionally, none of the intervention programs was utilizing the services of interpreters. This finding does not come as a surprise as it is consistent with what Tripp-Reimer et al. (2001) found among healthcare practitioners in healthcare for some Indigenous populations in North America.

Apart from verbal communication, several scholars note the importance of culturally appropriate educational materials and modes of teaching to the effectiveness of healthcare intervention programs for minority populations (Martyn-Nemeth et al., 2010; National Aboriginal Health Organization, 2009; Tripp-Reimer et al., 2001). It has been argued that most diabetes healthcare educational materials, especially printed materials are generally designed to fit all cultures. Most of the time, these materials are designed to reflect what is considered relevant or appropriate in the general populations (Barlow et al., 2008; Birch et al., 2009; McKennitt & Currie, 2012). As a result, all the illustrations used reflect the social and personal circumstances in their communities

This study found two written educational materials with one of the intervention programs. However, these did not reflect any aspect of Métis culture. These materials were neither written in Michif, Dene and Cree nor were they reflective of Métis cultural values, traditional practices, belief system and historical experience. For example, having pictures in educational materials depicting Métis cultural settings, norms and values. This is consistent with other studies (example Barlow et al., 2008; Birch et al., 2009) assessing cultural competence of healthcare educational materials. These studies found that usually the educational materials of these interventions are designed to suit the dominant population ignoring the culture of the minority. This is likely to serve as a barrier to the minority group participating in it. This may partly explain the low number of Métis participating in these programs.

Further, the mode of teaching used under culturally competent community-level diabetes healthcare interventions should as much as possible conform to the culture of the target group (Barlow et al., 2008; McKennitt & Currie, 2012). Therefore, appropriate modes of teaching should be used to achieve the desired health impact. In cultures with strong oral traditional setups such as Métis, using methods such as storytelling and talking circles have proved useful in producing higher patient satisfaction and quality health outcomes (Métis Nation of Saskatchewan, 2012). This, this study found that none of the interventions evaluated was found to be using any of the Métis oral traditional approaches. It seems probable that this is due to the absence of Métis specific diabetes healthcare programs/services.

Additionally, the quality of food consumed by people affected by the disease and those at the risk of developing diabetes will influence the complications as well as the number of people

that will potentially develop the disease. Food insecurity among the Aboriginal populations has been linked to high rates of diabetes (L. M. Anderson et al., 2003; Bassey & Melluish, 2013; Campinha-Bacote, 2002; Tripp-Reimer et al., 2001; Zeh et al., 2012). Food insecurity has been identified as one of the proximate determinants of health (C. Reading & Wien, 2013; Richmond & Ross, 2009). This proximate determinant of health can influence other health stressors to exacerbate health problems among Métis. Among the Métis being able to hunt and eat traditional food is seen as being alive well (C. Reading & Wien, 2013). Other researchers have identified food security as a means to explaining the current diabetes health status of other Aboriginal communities in Canada (Métis Nation of Saskatchewan, 2012). This could be linked to colonization and its impact on the Métis people. The kind of food available in a community is closely tied to socioeconomic circumstances and residential environment, which are largely attributed to colonization of the Métis.

Therefore, ensuring constant supply of fresh produce as well as traditional foods and limiting “unhealthy” foods, especially through the elimination of foods seen as “junk” is a useful measure for diabetes healthcare (Potvin et al., 2003). When there is inadequate healthy food, people increasingly patronize pre-packaged and processed foods, which may have negative consequence on the health of participants compared to healthy fresh produce. The inadequate access to healthy foods in homes in Canada, especially Aboriginal people, has necessitated that public healthcare practitioners look for effective ways to solving this problem. The frontline healthcare practitioners indicated that in their efforts to ensure food security through cooking programs, mobile food market, and community gardens. These are used as possible solutions to ensure that healthy and high quality foods are available to participants living with diabetes.

To this, diabetes healthcare practitioners working with healthcare interventions in the communities have increasingly used community gardening, food market and cooking programs as means of ensuring that community members have healthy and quality food. This finding is consistent with some of the strategies used in the Sandy Lake diabetes project. Access to healthy and nutritious food is not only affected by an individual’s personal choice, but also as indicated earlier, economic, social as well geographical factors (Ho et al., 2006).. In Saskatoon, for example, some Métis travel considerable distance to access healthy and nutritious foods.

Community gardens are seen as one of the means of providing access to healthy fresh produce to communities considering the economic, social as well as geographical factors. However, the analysis (figure 2 and 3) revealed that most neighborhoods with higher number of Métis residents are located a distance from this activity. Community gardening is one of the traditional Métis practices, which date back at least sixty years (Egeland, Williamson-Bathory, Johnson-Down, & Sobol, 2011; Osman, 2012; Saksvig et al., 2005). Though gardening was common among the Métis of Red River by the early nineteenth century, compared to other means of ensuring food security, it offer readily accessible nutritious food at cheaper cost. It enables participants to obtain healthy, fresh, and locally grown food, which are inexpensive (Loopstra & Tarasuk, 2013). Participants living with diabetes indicated that they obtain readily available nutritious food from the gardens. This finding echoes Cargo et al.'s (2011) observation that community garden activity in the Kahnawake community provided the opportunity for community members to have readily access to healthy foods.

In addition, the results of this study show a collaborative effort made through the healthcare interventions to revive community garden as a traditional practice. This finding suggests the renaissance of community gardening as part of the diabetes healthcare interventions activities with a range of actors involved, especially Aboriginal organizations and participants in decision-making. This is aimed at the increasing the availability of healthy and culturally appropriate foods for healthy living and skills development. This is consistent with existing literature in the sense that the introduction of community gardening in some intervention programs reenergized participants in the programs as they actively participated in the decision making process and the gardening activities (see Osman, 2012).

Again, the study revealed community gardens as sites for traditional skills development and to empower the Aboriginal people in terms of control and leadership, which can lead to community development in the long term. In the literature, drawing from case studies and social movement theories, it is argued that community gardens as sites for empowerment, traditional skills acquisition and community development to provide a change in dietary behavior (Cargo et al., 2011; Egeland et al., 2011; Ho et al., 2006; Porter & McIlvaine-Newsad, 2014). Therefore, the establishment of these gardens implies sustaining the community gardening activity as a Métis cultural practice. Moreover, involving school children in this activity together with adults, as indicated by a worker from CUMFI, would enhance their level of knowledge and education, preserve a cultural practice, and at the same

time support long-term efforts towards improving food security in their community. This is also seen as cultural heritage, as children would be inheriting these skills.

Physical activity level of an individual is another factor connected to diabetes rates and its associated complications. There exists an association between unhealthy eating habits, lack of physical activities, and high rates of obesity, which has been identified as a major risk factor to T2DM (Porter & McIlvaine-Newsad, 2014; Potvin et al., 2003). A study at Kahnawake reported that 12% of adult population aged 45-64 were diagnosed with the disease, and more than half of the people diagnosed with diabetes in the community were obese (Cargo et al., 2011). In this study, some of the healthcare interventions included organizing physical activities as part of their programming.

Studies on community-level healthcare interventions for Aboriginal people living with diabetes show a linkage between community gardening and increased physical activity level of participants (Cargo et al., 2006). In these studies, community gardening is used as means of addressing food insecurity and staying physically active through the planting and maintaining the gardens. This study confirms the findings of a great deal of previous work in the field of culturally competent healthcare such as the ones, cited above. The current study found that some Métis participants in the community gardening activity, in addition to obtaining healthy food, also use it a means of physical exercise. This may be explained by the regular maintenance of the gardens by participants.

In addition, one geographic contribution of the study was the significance of landscapes (community gardens) to create restorative health and well-being. Therapeutic landscapes “are seen as locations associated with the treatment and healing ...[it can be] physical or built environment” (English, Wilson, & Keller-Olaman, 2008, p. 69). Therapeutic landscapes in the literature have been concerned with improved health and restoration. The concept of therapeutic landscapes includes humanistic ideas of the sense of place, which impact on place identity (Gatrell, 2013). Although not directly linked to the Aboriginal community garden literature, some authors (Pitt, 2014; Tennart Ivarsson & Grahn, 2012) have linked it to mainstream community gardens, parks and other public spaces where patient seek healing when undergoing treatments. Community gardens are increasingly providing positive health outcomes through its therapeutic qualities (Hale et al., 2011).

The study found other social-cultural benefits of community gardens. The results of this study indicate that some participants use community gardens as a form of therapeutic landscape. A participant indicated how the garden connects to her close to nature, traditional practices, and as a sense of place she finds enjoyable. These give her psychological healing. Apart from serving as an environment providing health and healing, it also provides a sense of place for Métis. Sense of place has been used in therapeutic landscapes, and it is said to include the identity, significance, meaning and felt value attached to a place through experiences over time (Tenngart Ivarsson & Grahn, 2012). To the Métis, sense of place means belongingness to a place through culture, respect, safety, and connection to their community (Dorion & Prefontaine, 2003). For some participants, community gardens have these attributes. Therefore, community gardens provide the means for participants to achieve connection with people, culture, and well-being and health (mental, spiritual and physical) through nature.

Another way of staying physically active, which the data revealed was through the use of Métis jigging at some of the physical activity programs. Métis jig is a long-standing Métis traditional dance. The dance is performed accompanied by fiddle music²⁹, and reinforces an oral tradition handed down between generations (Peterson & Brown, 1985a). Tripp-Reimer et al. (2001) found that the use of traditional and spiritual music serves as a motivation to patients participating in a physical exercise. They argued that it serves as a form of spiritual upliftment to the participants to encourage participation.

The experiences of the participants revealed different perceptions about this program. Some of the participants living with diabetes indicated that their participation in the jigging lessons makes it easy for them to stay physically active. Further, some of the individuals felt strongly that the days for the jigging activity should be increased to encourage more Métis to stay physically active. It is interesting to note that during the present study, Métis living with diabetes who participate in the jigging program reported a reduction in the blood sugar levels as well as complications suffered. This is consistent with the finding of other studies. For instance, Martyn-Nemeth et al. (2010) found a positive association between incorporating culturally competent physical activity and improved diabetes health status. These authors

²⁹ The fiddle plays the melody and tells a story. Many Métis legends are recorded in the tunes from the fiddle. (See; www.metisresourcecentre.mb.ca. Accessed on March 27, 2014).

found low blood sugar levels and reduction in complications among some Indigenous people living with T2DM who engage in culturally competent physical activity.

Furthermore, the jigging lessons had many more people participating than the other physical exercise programs, which do not incorporate Métis jig. Thus, suggesting that incorporating jig into a physical activity program for Métis is significant in determining a participant's reason for attending the program. Another important finding was that healthcare practitioners reported that this activity has high participant retention. This study confirms findings from other studies (example Brathwaite & Majumdar, 2006; Saha et al., 2013; Stewart, 2006; Zeh et al., 2012) that the integration of culture into healthcare intervention programs apart from keeping interest of participants, have the capacity of increasing the number of patients' participation. The combination of these finding provides some support for the conceptual premises pointing to the importance of considering culture when developing diabetes healthcare intervention for minority populations.

Unlike the case with the general Canadian population, Indigenous peoples' understanding of social determinants of health is embedded in their past experiences, history, culture and the impact of colonization (Bruce et al., 2003). The processes of colonization, especially acculturation and loss of land due to abridgement of land rights have occasioned marginalization of the Métis people (Métis Nation of Saskatchewan, 2012; J. L. Reading et al., 2007). Presently, low health status of the Métis people is ascribed to disempowerment and disruption of their traditional cultural practices stemming from a history of colonization.

Currently, the diabetes rate is high among the Aboriginal populations including Métis (Bartlett et al., 2010). Current views on the causes are varied, however, with some pointing to the historical experience of the Métis people. Also, evident within these accounts is the impact of colonization on Aboriginal people (Métis Nation of Saskatchewan, 2012). However, colonization does not mean a mono-causal explanation to diabetes among the Métis, but argues further for a complex range of factors triggered by colonization. For example, colonization has been cited as the main cause of cultural and environmental changes resulting in changes in diet which has impacted negatively on the Aboriginal populations (see Bartlett, 2003). For the Métis people, colonization and long term effect of marginalization leading to high rate of unemployment, discrimination, failed attempts of cultural assimilation, continuous involvement in low paid employment, and changes in food

patterns and physical activity levels have contributed to the rapid increase in diabetes rates (Pelletier et al., 2012; PHAC, 2011; Ralph-Campbell et al., 2009; Vallis, 2012). Other studies have identified self-determination against Aboriginal marginalization as one of the determinants of health (Bruce, 2000a, 2000l; Bruce et al., 2003). Aboriginal people see unequal participation in decision making which govern their fate as a people as something which has an impact on the health and well-being (King et al., 2009; J. L. Reading et al., 2007).

Therefore, in order to deal with the historical experiences and its resultant effect of colonization of the Aboriginal people, Aboriginal communities should be empowered with to participate in decision making over areas such as health and education in a free and fair environment. It has been argued that the right to determine these issues have an impact on their health (J. L. Reading et al., 2007). It can be suggested that through self-determination, Aboriginal people will be empowered to make decisions for themselves to ensure sustained improvements in their living conditions, and their health by administering health systems in their communities for improved health.

In this study, one of the issues that emerged from the findings is that healthcare practitioners tried to incorporate Métis historical experiences into their program by targeting marginalization. Healthcare practitioners indicated that they ensured that community members participate fully in the decision-making process affecting the programs. Also, the current study found that CUMFI is involved in the administration of some of the interventions pointing to an effort aimed at Aboriginal self-determination. However, no Métis organization could be identified in this study as having its own diabetes healthcare intervention. This implies that Métis in the city and beyond are forced to patronize other diabetes healthcare intervention programs. This perhaps might be due to many factors including inadequate funding.

Linked to self-determination are other important social determinants that were not explicitly mentioned in the interviews such as land rights. Reading et al. (2007) contend that the growing land loss as a result of colonization has created cultural stress for the Aboriginal people. In the past, Aboriginal populations were moved from their original residences, thereby causing destruction to their traditional practices and culture, which are important components of their health and well-being (King et al., 2009). This was a worse experience

for the Métis people - who became 'road allowance' people and ending up in northern communities - as there was no other land for them (Bruce et al., 2003). This situation led to the deteriorated health of the Métis people. This point further elucidates the importance of culture and historical experience to Métis diabetes healthcare interventions.

6.3 Barriers /challenges to the provision of diabetes healthcare interventions

The goal of this section of the study was to identify barriers/ challenges that influence Métis diabetes healthcare. In this study, insights into the unique factors that influence Métis diabetes healthcare in Saskatoon were identified. The findings suggest that the barriers/ challenges to diabetes healthcare interventions are similar to those identified with other Indigenous populations in other studies (Beach et al., 2005; Birch et al., 2009; Tripp-Reimer et al., 2001) included inaccessibility, lack of supports, limited/ inadequate funding and poverty were some of the key influential barriers affecting diabetes healthcare intervention noted. Both participants living with diabetes and frontline healthcare practitioners identified group specific healthcare barriers. For example, participants living with diabetes identified barriers such as difficulty in accessing healthcare interventions; lack of commitment to using Métis traditional teaching approaches; lack of support packages; and lack of Métis cultural food incorporated into the food intervention. Other barriers that emerged include limited or inadequate funding opportunities, short duration of funding for programs, unsatisfactory coordination between Métis organizations, and lack of political commitment to address poverty emerging from both groups. For the purpose of this discussion, these barriers are categorized into cultural and non-cultural barriers.

6.3.1 Cultural barriers to the provision of diabetes healthcare

These are factors, which can be related to Métis culture, traditional practices, and historical experiences that prevent Métis living with diabetes to obtain maximum healthcare. First, the results revealed that some participants admitted that the ethnic composition of participants on some of intervention programs poses as a barrier to them. This is because most of the intervention programs were developed for both Aboriginal and immigrant populations. The results of the study show that participants were dissatisfied with the combination of both Aboriginal and immigrants on the same intervention programs. Many of these participants cited their inability to establish cultural bonds with these immigrants, because of their

cultural differences. Participants living with diabetes indicated that the number of immigrants in the programs overwhelmed them, and this was preventing most of them from participating in the intervention programs on a regular basis. This was said to be due to a number of reasons, including the lack of effective communications among participants because of language issues, and the difficulty of bonding with the immigrants. In a seminal work addressing the cultural competence of healthcare intervention programs/services, Birch et al. (2009) asserted that the existence of a multi-cultural group serves as a disincentive to clients who have difficulty identifying themselves with other cultural groups. What is unfortunate in this case is that frontline healthcare practitioners see combining both Aboriginal and immigrant people in one intervention program as a means of promoting social integration when, in fact, this may be preventing Métis from participating in these intervention programs.

Second, for the purposes of effectiveness, some community-level healthcare intervention programs/services, for example, KSDPP (Macaulay et al., 2003), are using traditional teaching and learning strategies to educate people on diabetes healthcare. This is even more relevant giving importance attached to the culture of many minority populations. To that extent, it is expected that the healthcare education will achieve the desired impact on the lifestyle and behavior of the target population. Regrettably, this does not seem to follow among the Saskatoon Métis living with diabetes who participated in this study.

There was a lack of commitment to use Métis traditional teaching and learning approaches/strategies under the interventions studied. Métis in history have used oral traditional approaches such as study circles and storytelling to promote intergenerational learning (Brizinski, 1993; Métis Nation of Saskatchewan, 2012). The Métis traditional teaching and learning strategies are generally elder-directed, and follow steps aimed at promoting mutual respect. Also, the approaches provide “students” with valuable skills and knowledge with the tendency of lasting a lifetime (Brizinski, 1993), thereby minimizing the problems associated with imparting healthcare knowledge.

To this, Zeh et al. (2012) have argued that establishing non-traditional teaching and learning approaches are seen to be problematic among minorities including Aboriginal communities. Under the current circumstances, it is challenging for diabetes healthcare practitioners to sustain non-traditional approaches. Healthcare practitioners must, however, begin to avail themselves in regards to utilizing traditional Métis teaching and learning approaches.

According to Barlow et al. (2008) implementing traditional Métis teaching and learning approaches are effective to achieving the desired health outcome, in this case, behavioral change.

Lastly, food is an important aspect of every culture, and people from different cultures see their food as satiety and means of ensuring healthy living (McDonald et al., 2011). As established earlier, participants indicated that there are measures to ensure food security, identified as one of the proximal determinants to diabetes health. Currently, the community garden activity is beset with some limitations. The study showed that there is lack of Métis specific cultural foods on the present food intervention programs. This suggests that there is a missing link between the food programs and Métis traditional foods. This finding is contrary to other diabetes healthcare interventions where traditional First Nation foods were incorporated to whip participants' interest in the programs and encourage behavioral change (Ho et al., 2006; Potvin et al., 2003). Nettle (2014) has argued that incorporating traditional foods into diabetes healthcare interventions developed for a specific population is the most appropriate means to attract people from that population to participate in the program, and to ensure better health outcomes.

It appears the current practice where organizers of the intervention programs try to incorporate foods, which in their view are “interrelated among [all] the Aboriginal cultures” is not appropriate arrangement for the Métis living with diabetes. For instance, some of the study's participants living with diabetes accused the current healthcare interventions of ‘stereotyping’ - leaning towards providing First Nations traditional foods. This confirms Kumar et al.'s (2012) assertion that, too often, most Aboriginal diabetes healthcare intervention programs in Canada are developed focusing on the First Nations rather than the other Aboriginal groups. However, a study by Martens et al. (2003) have argued that First Nations enjoy more diverse sources of funding for their health than any other Aboriginal groups in Canada, hence, this may explain why many if not most of the interventions developed lean towards them (see also; Cargo et al., 2011; Ho et al., 2006).

The other point is the influence of kinships/family connections and the subsequent colonial experiences demonstrated some similarities/overlaps between the First Nations and Métis people (Aboriginal Healing Foundation, 2006). However, this does not negate the fact that lack of direct programming influences Métis health, specifically T2DM, and need for Métis-

specific diabetes healthcare interventions. Also, some Métis have contested the “similarity argument” and have argued that Métis are distinct people with a culture different from the First Nations people (Métis National Council, 2011). Hence, the need for culturally specific diabetes healthcare programs provided for them.

Zeh et al. (2012) have argued that the absence of cultural foods from the target group was found to be a disincentive to T2DM control and management. However, incorporating local cultural foods have the capacity of increasing the number of people participating in an intervention program (Wendt & Gone, 2012). Therefore, assuring constant supply of cultural foods and limiting non-cultural foods, especially eliminating foods that the target group is not familiar with, can be of benefit in increasing Métis participation in the diabetes healthcare intervention programs and services.

6.3.2 Non-cultural barriers to the provision of diabetes healthcare

Non-cultural barriers emerged from both participants living with diabetes and frontline healthcare practitioners during the study. Unlike the cultural barriers, these are barriers not directly related to Métis culture, traditional practices and historical experiences that prevent Métis living with diabetes to obtain maximum healthcare. First, access to and utilization of healthcare intervention programs/services are underpinned by many factors including physical or geographical distance to the programs and services. The current locations of some of the diabetes healthcare interventions call into question the proximity of some the healthcare interventions to neighborhoods with higher number of Métis residents (see figure 2 and 3).

Some of the participants living with diabetes noted that they live at a considerable distance away from where the nearest interventions programs are located. These participants indicated that they could not access the programs regularly. Bhojani et al. (2013) studied barriers to access to diabetes healthcare and concluded that the utilization of healthcare interventions to a greater extent depends on, among other things, its geographic accessibility for clients (see Tripp-Reimer et al., 2001). Similarly, Wang and Tormala (2014) studied Aboriginal access to primary healthcare Physicians, and concluded for most Aboriginal people spatial access to primary healthcare was a problem. Despite the commitment by authorities to provide universal spatial access to healthcare to all populations in Canada, access disparities and

inequities continues to remain a pressing issue. The pattern revealed by the map using absolute number of Métis population by neighborhoods is indicative of spatial mismatch between actual number of Métis by residence and location of the healthcare intervention programs. Therefore, it stands to reason that geographic access to the programming could be limited for Métis people living with diabetes who lack personal means of transport. This is consistent with other studies (example Browne et al., 2010; Goa et al., 2008), which found that many Aboriginal people in Manitoba and Ontario respectively lack access to some primary healthcare services.

In this study, geographic inaccessibility to some of the healthcare intervention programs was attributed to the location of the healthcare facilities and lack of effective means of transport to these facilities. This is especially true where public transport provided by Saskatoon Transit is inadequate for some residential areas containing larger Métis population. From Figure 3, many Métis living with diabetes live a distance from the intervention, and this would seem to hinder their regular access. This observation reflects the concept of distance decay in health geography as explained by Meade and Emch (2010), which states that the farther the distance between two locations, the less likely it is for frequent interaction between the locations and vice versa. Therefore, Métis who live at greater distance from interventions are likely to have less interaction with the facilities to seek healthcare. This can result in an increase in health disparities existing between Métis and other populations. However, it is worth noting that distance decay is affected by other factors including mode and cost of transport. This means that even though cultural competency of healthcare intervention is important in producing better patient outcomes, providing geographic access is also important in increasing patronage.

Second, healthcare practitioners admitted to inadequacies in the funding programs for Métis diabetes, such as limited funding opportunities available. The current concentrations of funding available to Métis diabetes healthcare call into question the level of political commitment to Métis diabetes control by the federal government. It is argued that political commitment to controlling disease is perhaps more critical than expert (professionals) knowledge (Orosz, 2000). This is because efforts to reduce incidence rates and complications associated with the disease require substantial funding and funding decisions generally fall within the purview of governments agencies . This means that expert advice without funding dollars might not have the needed impact. On the other hand, available funding without

expert advice could lead to wrongful investment such that the desired health outcome would not be achieved. Therefore, to best improve diabetes health of the Métis population, the efforts from private institutions and the public health sectors should be supported financially by people in political power who have the capacity to commit resources based on expert knowledge to produce better patient outcomes (Institute of Medicine of National Academies, 2003).

Currently, funding for interventions for Métis diabetes healthcare is highly dependent on provincial governments (Métis Nation of Saskatchewan, 2012; Métis National Council, 2006), Métis organizations and civil societies. This study found some Métis organizations and civil societies in Saskatoon, such as CUMFI and the Lions' Club respectively involved in diabetes information sessions and healthcare programs. However, their efforts are not enough to cover more Métis communities in Saskatoon. Further, the study showed that most participants, especially healthcare practitioners and the worker from CUMFI were dissatisfied with present level of funding for Métis diabetes healthcare. The limited sources of funding most often result in delays with the release of funds. This finding is consistent with other studies, which found that sometimes Métis organizations find it difficult to access the limited resources for their health (Métis Nation of Saskatchewan, 2012; Métis National Council, 2006, 2011). This situation is further aggravated by the inability of some organizations to obtain funds to roll out their own diabetes healthcare programs due competition for funding.

Even when funding is obtained for an intervention program, sometimes the duration of the funding is short such that some of the key activities that have been implemented are curtailed at a point when they were impacting positively on the health to the people participating in the program. Again, those activities yet to be implemented do not see the light of day. Sometimes limited/short term funding could force community-level diabetes healthcare to be developed on small scale, which inherently limits the capacity of these interventions. Healthcare practitioners might face resource constraints to embark on outreach programs. Loopstra and Tarasuk (2013) have argued that “limited and or/short term funding and reliance on small grants innately constrain the capacity of some community-based healthcare programs in relation to the provision of healthcare and information flow to the community members.

Also, the review of the diabetes programs revealed some missing links in diabetes healthcare programs, poverty and housing policies. In the same manner, policies on socio-economic

improvements are seemingly unrelated to the diabetes healthcare interventions for Métis in Saskatoon. Healthcare practitioners blamed this on lack of political commitment provide resources and formulate proper policies that are directly linked to the diabetes healthcare interventions. While these policies do not necessarily have to be directed diabetes healthcare per se, political commitment to inter-sectorial linkages can be useful Métis diabetes healthcare. For instance, connecting social protection measures aimed at poverty control could be useful in this direction.

Third the discussion point above is related to other studies that argue for a connection between diabetes healthcare and other policies. However, this is directly related to upstream intervention approach and context. For instance, it has been argued that diabetes programing should as much as possible be connected to measures aimed at poverty policies (Howard, 2014). This statement is important because this study revealed that both frontline health practitioners and Métis living with diabetes identified the present level of poverty among Métis in the Saskatoon as a barrier to diabetes healthcare. Further, it was found that at present most people who are poor and living with diabetes find it extremely difficult to obtain money to purchase the healthy foods sold at a reduced price by some of the programs. Thus, people living with lower incomes could be subjected to stress of food insecurity and tend to patronize compromised diet as a result of the inaccessibility of healthy foods. Other studies have found that food insecurity is related to poverty (Ho et al., 2006; C. Reading & Wien, 2013). This point to some extent supports the development of well-being programs, for the control and management of other health problems including diabetes as well as development of social interventions for better health outcomes.

Additionally, frontline health practitioners attributed the unstable nature of some of the participants on the program to constant geographical mobility of Métis (changes to their place of residence) in the city. Aboriginal people, including Métis, are more likely to be transient in nature (A. B. Anderson, 2013). In Canada, the Aboriginal people relocate more regularly than general population due to a variety of reasons including employment opportunities and poverty, which affects housing leading to homelessness (A. B. Anderson, 2013; Peters & Robillard, 2007, 2009). The high rate of Métis mobility in Saskatoon leading to frequent changes in residence as a result of poverty has been identified to be impacting negatively on the health and health seeking behavior of Métis people. Again, the question here is if there is a real political commitment to ensure health equity among the populations in the city, as

Métis are not adequately funded when it comes to issues relating to their healthcare. Given the high poverty levels among some sections of the Métis population in the city, it is important to pull the scarce resources for Métis together to address both T2DM and poverty in a seamlessly integrated manner. This is preferred instead of the current situation where all efforts are mostly focused on only healthcare interventions for people living with diabetes.

Fourth, there were complaints from some participants about the seemingly unsatisfactory coordination among organizations to develop and implement healthcare intervention program for Métis living with diabetes. The present approach is centered on health organizations collaborating with some Métis organizations to develop their healthcare interventions. The efficient management of diabetes demands coordinated efforts from the healthcare team, local communities and client patients (Bhojani et al., 2013; Foulds, Shubair, & Warburton, 2013).

Some of the participants attributed the lack of coordination among the various organizations in Saskatoon to the constant staff turnover at some of these organizations, which is often as result of unstable core funding to run the activities of their organizations. This confirms Bhattacharyya, Estey, et al.'s (2011) observation that changes to people in leadership at community organizations involved in diabetes care to a significant extent prevent effective coordination to develop and implement effective diabetes healthcare intervention programs. For effective diabetes healthcare for Métis in Saskatoon, it is necessary for organizations to have stable staff who are committed to collaborate with other organizations for diabetes healthcare. Some participants reflecting on their experiences indicated the need for coordination and collaboration among Métis organizations in the city to share ideas. The perceived uncoordinated relationship between organizations, where individual Métis organizations always aim at developing their own interventions might hit a snag. While this is not sufficiently harmful to the Métis diabetes healthcare, the limited sources of funding creates an atmosphere of competition for funding among themselves, together with other Aboriginal organizations, which could always result in Métis health being underfunded.

Finally, although supports are useful for full participation and retention of people living with diabetes in a program, the participants noted that all the supports such as childcare support for nursing mothers as well as a transport subsidy for the clients to offset part of the cost towards bus pass have been terminated as a result of under funding. The termination of the

supports under the programs was perceived to have been hasty, without informing the clients. Respondents expected that frontline healthcare practitioners would bring back these support packages previously enjoyed by participants in some of the programs. With this expectation not met, some of the clients of the programs feel reluctant to participate in them. Soewondo et al. (2013) have argued that healthcare intervention programs might not attract enough participants when there are no support packages implemented for them. This appears to be the case with the present situation with respect to some of the diabetes healthcare intervention programs. Almaatouq et al. (2014) observed acceptance and attractiveness as being some of the important characteristics of support packages. Unfortunately these characteristics are non-existent to attract clients, as there are no supports attached to the programs.

6.4 How lessons from other interventions can improve Métis diabetes interventions

It is clear from the results and the discussions so far that participants of this study found the need to have Métis specific diabetes healthcare intervention, which would incorporate their culture, historical experiences and address their daily healthcare needs worthwhile. The experiences of participants with the current diabetes healthcare interventions, however, demand that this intervention is developed with best practices. In this section, I focus on lessons - best practices - that can be learned from other successful culturally competent diabetes healthcare intervention programs/services for First Nations people and Métis people in Canada, focusing on Sandy Lake Health Diabetes Project (SLHDP), Kahnawake Schools Diabetes Prevention Program (KSDPP), and Pathways to Health and Well-being Program. These best practices range from lessons from school-based diabetes projects to lessons on how cultural practices and traditions such as traditional learning approaches/strategies, language, community gardening, and cultural foods could be integrated into an ideal Métis diabetes healthcare intervention.

Although some of the intervention programs evaluated had activities for children, these were after school activities developed with the school's curricula focusing less on diabetes prevention. For example, this study identified that Shared Vision for Healthy Communities and Healthy People healthcare intervention programs had children's kitchen activity - an after-school skills and food education program, which targets grade 4 and 5 students. This was later adapted for older youth at the Osayak High School and Core Neighborhood Youth Co-op. However, the study revealed that unlike the SLHDP and KSDPP, not much attention

has been focused on this activity. Therefore, it will be useful to include in the curriculum of the schools, information on diabetes and healthy eating habits to complement the food education currently being implemented. Further, this could be aimed towards increasing knowledge and education on the need for healthy food eating habits, and to reduce the intake of fatty foods. It could also include school-based feeding programs to promote healthy eating practices, as this is the current practice under SLHDP.

In addition, community gardening as diabetes intervention activity was a major success under the SLHDP and KSDPP. This activity was developed to encourage the community members to establish gardens and cultivate healthy foods, which will be readily available to their families (see Ho et al., 2006; Macaulay et al., 2003). Also, the gardens were to promote physical activity levels and the cultivation of traditional foods. The establishment community gardens at local schools where both school children and adults would work together in a garden is seen as an ideal way to encourage children to engage in gardening with its long term benefits on their health. Although community gardening is happening independently in some schools, this research found that there was no such incorporation of community gardens practice into school activities. Therefore, incorporating community garden in the future would be seen as a useful practice with positive benefits to community health. Further, this is also seen as means of promoting intergenerational learning, where school children can learn from adults to preserve one of the oldest Métis culture practice.

A closer look at the community-level diabetes healthcare studied revealed that currently there are no physical activity lessons added to the activities for children under both the Aim 4 Health, and Shared Vision for Healthy Communities and Healthy People. One of the best practices that a model diabetes healthcare intervention for Métis can learn is to incorporate physical traditional activity lessons into the school curricula for children. This could enable children to learn about the importance of physical activities, and provide children with the opportunity to engage in these activities. As part of the KSDPP intervention program, children learn and engage in physical activity as part of their curricula. In addition, children and teachers walk daily around their schools' compound for 20 minutes in an effort to instill in them the habit of exercising daily and increase their activity levels (Cargo et al., 2008; Lévesque et al., 2005). These could be useful when adopted into a model diabetes healthcare intervention for Métis children in Saskatoon.

Furthermore, for community-level diabetes healthcare intervention to be successful, public health education is a key contributory factor. To this, the Sandy Lake diabetes intervention program targeted families and people living with diabetes to educate them on the importance of healthy eating habits and physical activity, which were being addressed in the schools as well as the community. This was also to enable parents to understand what their children are learning at school. As part of this, a radio talk show was started on a local radio station to educate the community on healthy lifestyle behavior (see Cargo et al., 2006). Currently, none of the interventions studied incorporate any of these activities into their programming. Therefore, these practices may be adopted into an ideal healthcare intervention for Métis depending on community needs.

In keeping with best practices, the SLHDP and KSDPP intervention programs used storytelling, and role-playing among other traditional teaching strategies to deliver healthcare information to the community. Drawing on lessons from these interventions, culturally appropriate and sensitive curriculum could be developed for diabetes healthcare education using Métis traditional learning styles/teaching approaches for both the school and community-level activities. Métis tradition thrives on oral tradition (Saksvig et al., 2005). Since none of the healthcare interventions studied was found to be using these approaches,, study circles and storytelling among others could be useful practices for public education. Also, as part of school based activities under the Sandy Lake interventions the curricula for children in grades 3 and 4 were developed using First Nations cultural relics, artifacts and concepts (Haase et al., 2008).

Additionally, traditional Mohawk foods namely corn, beans and squash popularly referred to as '*Three sisters*' have proven to be useful in reducing diabetes under the KSDPP (Ho et al., 2006). Even though the food programs studied were found to be incorporating some cultural foods, these foods were not Métis specific. Therefore, Métis traditional foods such as *tourtière* (meat pie), *boulettes* (meatballs), dry berries and smoked meat (Brizinski, 1993; Peterson & Brown, 1985e) could be incorporated into an ideal diabetes healthcare intervention for Métis in Saskatoon. These foods contain essential nutrients for healthy living.

Finally, the use of Michif and English in an ideal diabetes intervention program would assist programmers in achieving cultural competency and increasing health outcomes. Since the

interventions studied had health practitioners who are fluent in English only, it could be useful for Métis healthcare interventions to employ health practitioners who are fluent in both Michif and English. In fact, this is seen as a means of promoting effective communication between patient clients and healthcare practitioners. This practice proved useful under the SLHDP where trained staff used both English and Oji-Cree on both community interventions and radio talk shows to teach people about diabetes (Macaulay et al., 2003; Potvin et al., 2003). All these best practices when adopted into an ideal intervention would be useful to improve diabetes health status for Métis in both the short and the long term.

6.5 Reflections on the conceptual framework

Employing a conceptual framework was instructive for this investigation. This is because it provided the opportunity to analyze the nuances of culturally competent healthcare intervention programs/services. Overall, there was a good fit between the research questions and the conceptual framework that serve as a guide to this study. Of particular importance to the framework applied to the study were diabetes and cultural indicators of a culturally competent healthcare system functions for producing better health outcomes. The experiences of participants living with diabetes as well as comments from other participants, such as frontline healthcare professionals and a CUMFI worker, who took part in this study brought to light the multifaceted nature of understanding of culturally competent diabetes healthcare intervention programs/ services.

Also, the cultural indicators provided the basis for analyzing how Métis culture is reflected in the healthcare interventions for T2DM control. These cultural indicators when assessed revealed that respondents were generally dissatisfied with the level of commitment on the part of frontline healthcare practitioners towards incorporating Métis culture into diabetes healthcare intervention programs/services. Under this, issues about Métis specific healthcare interventions, which are useful for high Métis participation and improved health outcomes also emerged from the accounts of participants.

While some of the proposed criteria such as traditional food and language developed in the conceptual framework were not fully met, others were found to be difficult to be incorporated. For instance, it is difficult to include some issues on historical experiences such as poverty, unemployment, land rights and poor housing into the interventions. Therefore, as

to how Métis historical experiences are reflected in the interventions, practitioners indicated how they were tackling Métis marginalization in the past by empowering Métis communities in decision-making processes to partake in decisions affecting the interventions. However, Aboriginal self-determination can encompass a broad range of activities or structures, and it might include communities being able to raise funds to fund their own health. Since the framework was prepared before my study, I would suggest the following revision to the framework. It would be important to include other social determinants of health such as poverty, unemployment, land rights, poor housing, and justice (fairness and equity) in resource distribution to reduce marginalization and inequities in diabetes healthcare. These could also be linked to the historical experiences of Métis.

Following from the discussions above, all of the discussion points, taken jointly, fit well within the indicators enumerated in the conceptual framework and as such supporting the adoption of the framework into the future planning and development of culturally competent healthcare intervention for minority populations. In summary, the framework provided valuable support for studying culturally competent community-level healthcare interventions for the prevention and control of T2DM, given its blend of cultural indicators and health system functions to reduce existing health inequity and produce better health outcomes.

6.6 Limitations of the study

The knowledge gained from this study will add to the literature on Métis health, especially since this is the first step towards the study of cultural competency of community-level diabetes intervention programs/services for Métis in Saskatchewan. However, research studies of this nature are liable to be limited in some respects. First, there were some limitations associated with the methods employed. For example, using snowball sampling to select participants living with diabetes limited the age category of the Métis people living with diabetes who participated in my study. Also as a new immigrant, I had little knowledge of Métis culture and traditional practices. Therefore, employing a decolonized approach for Métis health research was a problem for me at the initial stages of my study. These were dealt with by gaining an insight into Métis culture through my partnership with the MN-S, visits to some healthcare interventions, and further readings on the Métis in Canada.

Another limitation of the study was the use of documentary materials and information in an attempt to describe the community-level healthcare interventions studied. This was challenging, given the gaps in the data. In some instances, full official information on some of the healthcare interventions could not be located. Nevertheless, the available text allowed general descriptions of the entire community-level healthcare interventions, which this study evaluated.

Also, I had primarily intended to interview staff from other Métis organizations and provincial health administrators such as MN-S health department and regional health unit. However, when it was time to talk to the staff at the health department of MN-S, there was no one remaining. The organization had laid them off perhaps as a result of funding cuts. Additionally, efforts to recruit a participant from Saskatoon health region yielded no results. Despite these limitations, the information obtained for the study allowed for in-depth analysis of the experiences of participants on more generally the cultural competency of the community-level healthcare interventions they access in Saskatoon.

Lastly, there are some limitations associated with the census data used in this study. Census data is beset with under reporting, as many Métis would not want to be identified with the group because of their past historical experiences. Also, the data had issues of misreporting. Some Métis reported that they were living in neighborhoods when in actual fact no individuals are living at that part of the city. For example, the spatial analysis revealed that while some Métis reported they live at the University development area, in actual fact, this neighborhood has no residents.

6.7 Conclusions

Researching into the past and present public health issues is an important means of making inputs into policies targeted at achieving prolonged quality of life. The issue of T2DM among Aboriginal populations in Canada has attracted attention from academic scholars and public health practitioners. This is because of the complications as well as the comorbidities associated with the disease. Notwithstanding this, some countries are faced with a daunting task of achieving good health for all of its population. Partly, this is as a result of the inequities and disparities in the provision of equal access to healthcare. Therefore, identifying practical means of ensuring long and quality of life for Métis people living with diabetes as

well as to prevent diabetes have and will engage the attention of many actors including scholars in academia. However, majority of the studies on Aboriginal diabetes in Canada have been more concerned with risk factors, complications and healthcare than the cultural competency of healthcare interventions. The few studies that have focused on cultural competency have been on healthcare practitioners than the healthcare interventions as a whole. Therefore, the main overarching goal of this study was to explore the extent to which community-based T2DM health interventions in Saskatoon are being delivered to the Métis in Saskatchewan in a manner that is sensitive to their culture.

The following conclusions can be drawn from the present study. First, this study identified five main diabetes healthcare intervention programs in Saskatoon, two of which were community-level interventions targeting Aboriginal people and immigrants with a series of activities organized under each of them. In this study, it has further been shown that although Métis living with diabetes were found to be participating in these healthcare interventions and are eager to seek healthcare, most of them continue to struggle with finding healthcare interventions which integrate Métis culture and historical experiences. These struggles are mainly due to the lack of Métis specific diabetes healthcare intervention programs in Saskatoon, which incorporates a number of cultural indicators identified in the conceptual framework in chapter 2.

Furthermore, it emerged from the study that culture indeed influences the decisions of Métis living with diabetes to participate in healthcare intervention programs/services. This was evident through the differences in the number of participants observed between the healthcare interventions, which incorporate Métis culture and historical experiences, and those that do not. Therefore, there is a dearth of culturally competent Métis healthcare interventions in Saskatoon, which incorporate Métis culture, thus, limiting their ability to participate fully in the existing interventions. Until policies that adequately recognize Métis culture and historical experiences are implemented and incorporated into healthcare interventions, higher patient client participation and better health outcomes for Métis living with diabetes may be difficult to achieve.

Also, some of the proposed indicators in the conceptual framework developed for this study were not fully met in most of the of the diabetes healthcare interventions. Those indicators found to be lacking include language, food, ethnic composition, and traditional teaching

approaches. Some respondents who were older wondered why some of these indicators were not incorporated into the intervention programs. However, frontline healthcare practitioners expressed different views. For instance, regarding the lack of Métis traditional foods used on the program, healthcare practitioners indicated that they try to incorporate foods, which are seen as interrelated among the Aboriginal groups resident in Saskatoon. This goes to substantiate that Métis were not exclusively considered in developing these healthcare interventions.

Given the emphasis on community gardening in the diabetes healthcare literature, this study has gone some way towards enhancing our understanding of community gardening as one of the traditional activities used under the programs and as places of healing (therapeutic landscapes). The benefits derived from the gardening include, but are not limited to, ready availability of healthy food; increased level of physical activity through the maintenance of the gardens and as locations for treatment or healing. Even though some participants expressed resentment about plot sizes and their inability to grow their traditional crops, the plot sizes had relatively little influence on patient client's participation.

The evidence obtained suggests that healthcare practitioners generally involve Métis communities in the decision-making process and empower them to participate in the decision-making affecting the intervention program. Through this some Métis organizations such as CUMFI were found to be involved in administering some of the programs. Yet, this does not seem reflected in the programs Métis attend. Notwithstanding this, other determinants of health such as high rates of poverty, poor housing, and unemployment, which could be linked the effects of Métis historical experiences, were found to be disconnected from the interventions studied.

Again, the study revealed some barriers to Métis diabetes healthcare intervention programs. Among the barriers identified by participants living with diabetes were the lack of commitment to use Métis traditional teaching approaches; lack of incentive (support) packages; and lack of Métis cultural foods in the food intervention programs. The frontline healthcare practitioners also reported on the following barriers; limited funding opportunities, short duration of funding for programs, and unsatisfactory coordination between Métis organizations as the challenges they are confronted with in the development and implementation of their programs. All the participants living with diabetes and the frontline

healthcare practitioners identified high levels of poverty among some sections of the Métis population in the city and its effects on diabetes healthcare and lack of political commitment to control Métis diabetes. The study also provides additional evidence to the accessibility and utilization of healthcare literature by providing an analysis of Métis access to diabetes healthcare interventions. It can be concluded that many of the core neighborhoods with high number of Métis residents live at a distance from the nearest diabetes healthcare intervention. This situation could imply that Métis who do not have access to private means of transport might rely on public transport. An implication of this is the possibility that many participants would feel reluctant to attend the intervention programs. These barriers were found to be playing important role for culturally competent healthcare to achieve its desired objective. There is, therefore, a definite need for measures to address these barriers.

The evidence from this study suggests that healthcare practitioners do not often understand that some of their program policies inadvertently marginalize Métis. Some participants indicated that the higher number of immigrants on various intervention programs discourage them from participating in the programs' activities. However, healthcare practitioners indicated that they combine both immigrants and Aboriginal people on the same program as a means of promoting social integration. To this, Métis living with diabetes suggested if cost factors would not allow for separate interventions for immigrants, in the midst of inadequate funding and resources separate days should be allocated for immigrants from that of the Aboriginal people to attend the programs.

Lastly, in this study, it has been shown that a model community-level diabetes healthcare could learn lessons (best practices) from other flagship diabetes healthcare intervention in Canada such as SLHDP, KSDPP, and Pathways to Health and Well-being program. Taken together, these best practices such as the use of traditional teaching and learning approaches (for example, study circles and storytelling); employing healthcare practitioners who are fluent in English and other indigenous languages (Dene, Cree and Michif); adopting public health education and radio talk show on diabetes, establishing community gardens where both children and adults can work together and adopting Métis traditional foods such as *tourtière* (meat pie), *boulettes* (meatballs), dry berries and smoked meat could be incorporated into a model diabetes healthcare intervention for Métis. These should be congruently pursued to develop a model Métis healthcare.

Examining diabetes healthcare intervention programs within a culturally competent framework, the study identified the importance of incorporating cultural indicators into healthcare. These indicators are key to understanding culturally competent healthcare for Métis or any other Indigenous population. However, most of the interventions are missing Métis exclusive cultural indicators to achieve the intended improved health outcome for their population. Therefore, these conclusions suggest that community-level diabetes healthcare intervention programs in Saskatoon for Aboriginal people, albeit well intended to reduce the prevalence rate and manage the complications associated with the disease, are to an extent disconnected from some of the traditional Métis traditional cultural practices and historical experiences. These indicate the need for Métis-specific diabetes healthcare interventions to give meaning to the fight against T2DM among the Métis population in Saskatchewan and in Canada as a whole.

6.8 Recommendations

Based on the research questions and findings of the study, a number of recommendations emerged for developing culturally competent diabetes healthcare intervention for Métis. In relation to the research question on lessons in terms of best practices that may be learned from diabetes intervention programs for First Nations people, for Métis people in other provinces, and for other Indigenous people to improve practice. This study highlighted best practices, which could be learned from some of the flagship healthcare interventions in Canada reviewed in chapter two such as SLHDP, KSDPP, and Pathways to health and well-being in Saskatchewan.

The participants living with diabetes were frank about the benefits derived from the community gardens. On the basis of this issue, a key policy priority should be to plan for the long-term care of Métis communities. Therefore, it is recommended that community gardens should be established in the schools in the Métis communities. A recommended strategy to maximize effectiveness of this activity is to solicit help from adult participants to support the integration of gardening into school activities, as the children will have the opportunity of learning from the adults. This is seen as a long-term measure to slow the increase of the disease among the Métis population. Stemming from the experiences of this community gardening activity, this is also seen as a means of incorporating intergenerational learning where school children learn from adults on how to establish and maintain the gardens. Also,

practitioners could incorporate the concept of therapeutic landscapes into the community gardening activity in Saskatoon. Such gardens would provide healing and inner peace to participants. This could be done through the establishment of gardens where people can work and feel as a sense of place and closeness to nature.

Also, there is a need for culturally competent Métis specific diabetes healthcare intervention programs/services that would incorporate some of the proposed indicators within the conceptual framework, which were not met in the existing interventions and also strengthen existing interventions. These indicators include traditional Métis food, language, ethnic composition and traditional learning approaches/strategies. For instance, it would be useful to organize traditional events through which diabetes knowledge could be imparted. Issues around cultural activities are important in this direction. Métis cultural activities such as sweat lodge ceremonies where diabetes healthcare and wellness topics are discussed through oral narratives are very important as many Métis are more likely to participate in this activity. Since oral tradition is vital to Métis history, it would be useful to re-invigorate public health education campaigns on diabetes using narratives, storytelling and study circles. Also, diabetes healthcare organizations could strengthen current activities formulated around Métis culture such as the jigging activity.

While healthcare professionals may see the integration of immigrants and Aboriginal people on some of the intervention programs as promoting social integration, in actual fact this was pushing away Métis from participating in the intervention programs/ services and marginalizing them within the program. Since cost factors was identified to be driving the program directives, practitioners/users suggested that the days for the programs' activities should be shared among the groups. In this way, each group will have a specific day on which activities will be organized for specific group.

Frontline healthcare practitioners were of the view that a lack of collaboration and coordination among Métis organization and between healthcare practitioners in tackling diabetes is counter-productive because once each organization develops its own program, it becomes difficult to obtain funding support for all of them. It is suggested that greater responsibility must lie with both healthcare practitioners and Métis organizations if culturally competent healthcare intervention is to be achieved. There is the need for healthcare practitioners to collaborate with Métis organizations, and the various Métis organizations

collaborate among themselves. These collaborations will aid the recognition by both provincial healthcare providers as well as federal government that Métis are distinct cultural groups with strong local and regional histories and identities that influence how Métis conceptualize illness and treatment.

Another point, and closely related to the above, there must be a change in the focus of some of the funding organization to turn their attention to funding more Métis diabetes healthcare. These funding agencies can put in place mechanisms required to ensure that the adoption of Métis cultural values and traditional experiences into diabetes healthcare as part of their funding requirement. Additionally, greater responsibility lies with the federal government if Métis diabetes healthcare intervention programs/services are to be made culturally competent. The federal government should make efforts to enforce the Supreme Court ruling in April 2013, recognizing Métis as status Aboriginal people by providing funding for their healthcare. Through this, funding organizations and federal government would give Métis same opportunities as the other Aboriginal groups to obtain diabetes healthcare resources.

Again, effective culturally competent Métis diabetes healthcare intervention programs/services require greater efforts by practitioners to situate them closer to neighborhoods with higher number of Métis residents to provide easy geographical/ spatial accessibility. The success of culturally competent diabetes healthcare interventions to a greater extent depends on the level of accessibility by clients to ensure better patient outcomes. In communities where the majority of the people are living in poverty, siting interventions closer to them could eliminate certain barriers such as transport cost, and increase participation. Currently, there appears to be a spatial mismatch between Métis-dominant residential areas and location of the healthcare interventions. Therefore, more research on spatial accessibility to diabetes healthcare in Saskatoon is needed to provide interventions that are optimal for the Métis population.

Also, increasingly diabetes has been linked to other health related problems such as cardiovascular diseases and, more recently, dementia. This means that programs developed for these health problems could be integrated into diabetes programs. This can be achieved by adopting a “Wellness Approach” to health, where various healthcare programs are integrated to promote the well-being of Métis. The wellness to health strategy would allow the integration of people and kingship into educational and activities based programs. It could

also provide ways for community engagement due its diverse nature. Even though the development of a Wellness Program could be challenging, it would serve as a means providing comprehensive healthcare to Métis living with diabetes.

Additionally, given that the socio-economic conditions of Métis in the city were not part of this study, the conclusions raised above do not consider such factors. Therefore, further research is needed to explore economic circumstances (income and employment) of Métis and how it impacts on their accessibility of diabetes healthcare interventions. A follow up study on how the Métis access other diabetes healthcare interventions could throw light on which interventions Métis in the various economic classes access or patronize.

Finally, for future research, additional study is needed to understand how Métis communities across provinces are using community resources to develop culturally competent diabetes healthcare interventions. In particular, it will be fruitful to conduct a comparative study of Saskatchewan and Manitoba, since there are critical differences among the Métis in the two provinces (conditions likely to be different between them), and a comparative approach might provide a more nuanced and redefined interpretation.

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APPENDIX I: INTERVIEW GUIDES

Interview questions for people with diabetes

Issues leading to the accessing healthcare interventions

1. Can you tell me about the community where you live?
2. What issues have you had with your health in the past?
3. What are some of the things you remember about your health in the past?
4. What kind of sicknesses do you know exist or have existed in your family?
5. Tell me the story of what happened when you were first diagnosed with diabetes
6. Tell me about a normal day in your life
7. How did you first learn about this intervention program?
 - a. How did you get information about this program?
 - b. How far do you have to travel to access the program?
 - c. Do you feel that this is a barrier to accessing appropriate treatment?

Issues relating to culture

8. Tell me a story about one day when you visited the program
 - a. What was your first encounter with the program like?
9. Why do you think the program is helping with the management of your diabetes?
10. Can you tell me about the program and how it is delivered to you?
 - a. Do you see anything relating to your culture and traditions reflected in this program?
 - b. Is your community's history reflected in the program?

Barriers to interventions

11. What concerns you about the way the program is delivered?
12. How has your experience with the program changed your understanding of what it means to live a healthy life in the community?
13. What do you think are the impediments or barriers to following the program?

Satisfaction and changes envisaged

14. Do you feel satisfied with the program as it is offered?
15. What changes would you like to see in the program in the future?
16. Is there anything that you want to add?

Interview questions for Métis organization

Diabetes intervention programs

1. Tell me about the programs and services in Saskatoon around diabetes.
2. Does the MN-S play a role in any of these programs?
3. Who can access these programs?
4. Tell me about what these programs are supposed to do?

Issues relating to culture

5. How is (are) the program(s) structured?
6. Is any part of the program designed to reflect the culture and history of the target group?
7. What aspects of the program have worked and which have not in your view?

Satisfaction and plans for the future

8. What plans do you have to make?
9. How do you see the future of the programs?
10. Do you have plans to change it in the future? (From the perspective of the MN-S, what improvements would you like to see in these programs?).
11. Is there anything that you want to add?

Interview questions for health professionals

Issues concerning diabetes intervention programs

1. How long have you been working on this program?
2. How is the program organized?
3. What procedures exist under this program for people with diabetes?
4. How is the program delivered to the clients?
5. How is the program information delivered to the target population?
6. Is the community involved in the formulation of this program?
7. Does the community have a say in running the program?

Issues relating to culture

8. Do you have a staff member from the same ethnic group as that which the program targets?

- a. Are the people working as frontline practitioners or administrative personnel?
- 9. Do any of the activities under this program reflect the culture of the target group?
- 10. What are the responsibilities of the workers with respect to those interacting with the clients?
- 11. How do you organize in-service training for employees?
- 12. Is there a cultural component offered as part of the in-service training?

Barriers faced

- 13. Could you tell me a bit more about the difficulties you encounter in delivering the program?
- 14. Do you think the current services offered to the Métis people are adequate?
- 15. Are they culturally appropriate in your view?

Plans for the future

- 16. What changes would you like to see made to the program in the future?
- 17. Do you plan to integrate more of the cultural practices of the people?
- 18. Is there a mechanism for obtaining feedback from the community concerning cultural appropriateness?
- 19. Do you know of any other diabetes programs and where they are located?
- 20. Is there anything that you want to add?

APPENDIX II: RESEARCH COLLABORATION AGREEMENT

PROJECT TITLE

Evaluation of Cultural Competency in Type 2 Diabetes Mellitus Intervention Programs for Saskatchewan Métis.

PARTNERSHIP

This document constitutes an agreement of collaboration between the Métis Nation of Saskatchewan (MN-S), as represented by the Director of Health and the University of Saskatchewan as represented by Boabang Owusu (MA Student Researcher).

PURPOSE

The purpose of this Agreement is to establish a set of principles that will guide the conduct of the research project entitled “Evaluation of Cultural Competency in Type II Diabetes Mellitus Intervention Programs for Saskatchewan Métis” These principles recognize and emphasize Métis cultural values and perspectives into the research process.

THE RESEARCH TEAM

Boabang Owusu (MA Student – University of Saskatchewan)

Tara Turner, PhD (Director of Health MN-S)

Paul Hackett, PhD (Research Supervisor- University of Saskatchewan)

PROCESS RECORDS

The *student researcher (Boabang Owusu)* will coordinate all administrative matters relating to the above named research project, with recognition of the collaborative partnership with the MN-S. The research team will be based in Saskatoon at the MN-S and at the University of Saskatchewan.

DURATION AND CHANGES

This agreement on research collaboration will be in effect throughout the entire research process; from the moment efforts are made to implement the proposal, through the development of the research methodology and questions, data collection, and analysis phases into the dissemination of and publication of the findings. The *partners to this agreement* can amend this agreement upon mutual consent.

ETHICAL CONSIDERATIONS

Research ethics is a standard of conduct for researchers while engaging in research with individuals and/or communities. Ethics are rules of conduct that help to distinguish between acceptable and unacceptable behavior. An Indigenous/Métis research paradigm outlines

ethics, responsibilities, and accountabilities for the research and to the community (refer to Good Practise Guidelines). Intertwined are the cultural, ethical, and moral responsibilities the research team will have as co- researchers and partners of this project. It is the responsibility of the student researcher (Boabang Owusu) to negotiate the ethical considerations of the community partner and the academic institution. Therefore, the student researcher will adhere to an Indigenous/Métis research ethics and the University of Saskatchewan Behavioural Research Ethics. It is also the responsibility of the student researcher to ensure that ethics approval is obtained by the MN-S and by the University of Saskatchewan Behavioural Research Ethics Board.

Outline below are the ethical procedures/consideration used or applied within this research:

University of Saskatchewan

The University of Saskatchewan follows the national standards outlined by the Tri-Council Policy Statement. The researcher will follow the Behavioural Research Ethics guidelines of applied social research as outlined by the University of Saskatchewan. These include voluntary participation, informed consent, do no harm, confidentiality, anonymity, and right to service.

Indigenous Peoples' Health Research Center (IPPHRC)

The Indigenous Peoples Health Research Centre stresses the importance that research should empower the community to support community goals of health and wellness. Research should help to create community sustainability and responsibility for improving the future for Indigenous young people of today.

National Aboriginal Health Organization (NAHO)

NAHO has outlined Indigenous research ethics in their article titled '*Ownership, Control, Access, and Possession (OCAP) or Self-Determination Applied to Research: A Critical Analysis of Contemporary First Nations Research and Some Options for First Nations Communities*' OCAP applied to research include Indigenous ownership, control, access, and procession of the research. OCAP is a political research agenda that puts Indigenous ways of knowing, being and doing in the forefront. It outlines the importance of Indigenous peoples and communities right to own, control access and possess information about themselves and their people. Ownership and rights of the research determine how the data will be managed in the present and future. These will be documented early in the project. The researcher will work with Indigenous community to determine the conditions for access and use of data.

NAHO has released an article entitled '*Principles of Ethical Métis Research*' that outlines ethical guidelines involving Métis research. This document provides baseline for how to conduct research with and for Métis communities.

The research collaboration partners to this agreement collectively share the responsibility for ethical standards throughout the research endeavour.

GOOD PRACTISE GUIDELINES

The Good Practise Guidelines the *research team* will follow are based on Métis research ethics surrounding Relationships, Respect, Relevance, Reciprocity, and Responsibility

- The *research team* will strive to include meaningful and equal participation from Métis community members. Therefore, the parties will be jointly involved as partners from the development of proposal, methodologies and questions, data collection, and analysis phases into the dissemination of and publication of the findings.
- The *research team* will respect and value each research collaborator/participant and their knowledge. This respect will be based on creating relationships grounded in connection, communication, transparency, honesty, and trust.
- The *research team* accepts the responsibility to uphold the integrity that comprises carrying out this research project.
- The *research team* will collectively make decisions on research questions, in data collection, interpreting results, in drafting reports, and in dissemination of findings.
- The *research team* will work to ensure that the research project is relevant and beneficial to the MN-S.
- In dissemination strategies to Métis communities, the *research team* agrees that the language and manner of sharing will be appropriate to Métis peoples.
- The *research team* will strive toward clearly explaining the purpose of the *research study* and its benefits and risks in a language that is appropriate to the people receiving the information.
- All members of the *research team* will be provided the opportunity to review and comment on findings prior to publication or presentation.
- The *student researcher (Boabang Owusu)* is responsible for obtaining ethics approval with the University of Saskatchewan Ethics Board prior to engaging in research activities.
- The *student researcher (Boabang Owusu)* is responsible for maintaining the integrity of all data collected, such as storing participants consent forms, storing raw data, and destroying data. All handwritten field notes, reflexive journals, and other notes will be stored in a locked receptacle that is secured in a place, in the student researcher's office. The student researcher will be the only person to have access. The data collected will be encrypted in a folder stored on a password-protected computer, and the data analysis will be password protected. At the end of the research phase, the student researcher will assume the responsibility for storage of data obtained. Data will be stored in a locked filling cabinet and also encrypted in a folder on a password-protected computer in the

office of my supervisor, Dr. Paul Hackett, at the University of Saskatchewan, Department of Geography and Planning until the completion of this dissertation work.

- The *research team* agrees to provide meaningful and appropriate capacity-building opportunities for Métis community member during the research.
- The *research team* cannot reproduce, copy, distribute, use, modify, or publish any written information, electronic information, graphs, tables, diagrams and pictures of individual partners presentations without written authorization.
- The *research team* agrees that Métis peoples and communities have the right to follow cultural codes and conduct of community protocols.
- The *research team* agrees that if necessary, seek advice and support from Métis Elders and MN-S leadership, including in situations where difficulties arise in obtaining consensus. Recognition of who is considered an Elder is to be made by the MN-S.

Name of Research Partner (please print) _____

Signed _____ Date _____

Name of Research Supervisor (please print) _____

Signed _____ Date _____

Name of MA Student Researcher (please print) _____

Signed _____ Date _____