The Title:

TWO-EYED SEEING: Exploring the Integration of Indigenous Notions of Health and Wellness into Population Health Approaches to Address the Prevalence of Type II Diabetes Mellitus in Indigenous Communities

by

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Abstract

Indigenous peoples in Canada have long suffered the disproportionate prevalence of Type 2 Diabetes Mellitus (T2DM) compared with the general population. While the Canadian government is currently making efforts towards addressing this health inequity, these have not been meaningful in engaging Indigenous peoples at the level of their perspectives of diseases, health and wellness. A literature review was conducted to explore the ways Indigenous health frameworks can be utilized to enhance the development of programs and initiatives aimed at addressing health inequities. Specifically, the *Two-Eyed Seeing* guiding principle was examined within the context of the Indigenous determinants of health to enhance the *Aboriginal Diabetes Initiative* (ADI). The recommendations proffered are centred around decolonizing Indigenous health by creating an ethical space were the strengths of both Western and Indigenous worldviews are utilized to improve the ADI and ameliorate the disproportionate prevalence of T2DM among Indigenous peoples in Canada.

Keywords: Two-Eyed Seeing; Type 2 Diabetes Mellitus; Indigenous; Aboriginal Diabetes Initiative

“Go into the forest, you see the birch, maple, pine. Look underground and all those trees are holding hands. We as people must do the same.”

- Chief Charles Labrador of Acadia First Nations

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List of Acronyms

ADI	Aboriginal Diabetes Initiative
CDS	Canadian Diabetes Strategy
FNIHB	First Nations and Inuit Health Branch
IDOH	Indigenous Determinants of Health
ILCSDMAH	Integrated Life Course and Social Determinants Model of Aboriginal Health
IRSS	Indian Residential School System
MOHLTC	Ontario Ministry of Health and Long-Term Care
MPH	Master of Public Health
PHC	Primary Health Care
SDOH	Social Determinants of Health
TRC	Truth and Reconciliation Commission
T2DM	Type 2 Diabetes Mellitus
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
WHO	World Health Organization

Introductory Reflection

The focus of this paper emanates from a personal interest in equity and social justice relating to the health and wellness of populations. Having worked as a physician before a graduate education in public health, I have observed how healthcare systems have struggled to respond to underserved populations on many levels from population health interventions to healthcare delivery systems.

However, the best way to deal with these inequities is to enhance focus on prevention by addressing the causal factors and the determinants of health responsible for such inequities. While the drive is to include innovative breakthroughs in science and our systems of knowing to combat diseases and negative health events, we may be unconsciously neglecting the needs of underserved populations and come across as being prescriptive. In the case of Indigenous peoples, these well-meaning interventions may perpetuate the cycle of colonialism and undermine their efforts at self-determination. The focus of this research on *Two-Eyed Seeing* is to explore how an ethical space can provide opportunities for the engagement of dissimilar paradigms towards the discourse of decolonization and proffer strategies applied within this framework to achieve better health outcomes for Indigenous peoples.

Considering my social identity and location in this work as a non-Indigenous person, it is important to note that I am not embarking on this work as an expert in Indigenous health. Rather, I see myself at the shallow end but with the guidance of my teachers - Indigenous and non-Indigenous allied scholars - moving slowly, but surely, on the journey towards the deep end.

Introduction

Indigenous peoples in Canada experience the disproportionate prevalence of Type 2 Diabetes Mellitus (T2DM) compared with the general population. While the Canadian government is currently making efforts towards addressing this health inequity, these have not been meaningful in engaging Indigenous peoples at the level of their perspectives of diseases, health and wellness. The main concern has been that the Western methods of disease prevention and treatment have been aimed at addressing *inequalities* without recognizing them as *inequities* by failing to completely understand the determinants of health associated with T2DM and the traditional spiritual and healing methods engrained in Indigenous cultures. However, it is important to note that the Canadian government has begun to recognize the social determinants of health (SDOH), but it has not been successful in mounting a sufficient response to the underlying determinants of diseases and negative health events in Indigenous communities.

Historically, Indigenous peoples' notion of wellness emphasizes that good health comprises the balance of the elements of life on the medicine wheel (King, Smith, & Gracey, 2009). Traditional Indigenous understanding holds that health is not merely physical, but from a *wholistic*[1] perspective, also involves the other three domains of being human (intellectual, emotional, and spiritual) in addition to considerations of *where one is coming from* and *where one is going* within the present moment (C. Bartlett, Marshall, & Marshall, 2010). While this construct is characteristic of many Indigenous knowledge systems, it should be noted that it is not common to all Indigenous peoples and, where present, varies across communities (Laframboise & Sherbina, 2008).

Based on this knowledge system, diseases are believed to be the direct results of the disruption of this balance which ultimately manifests as physical signs and symptoms. Unlike the biomedical approach of mainstream Western medicine which is

[1] *Wholistic* represents whole or whole body; taking into consideration the whole body or person which includes the mind, body and spirit, and is used in this text to describe the concepts of *health* and *wellness* as conceptualized by Indigenous ideologies. This concept is not to be associated with *Holism* which is a system of therapeutics, especially one considered outside the mainstream of scientific medicine, such as homeopathy, naturopathy or chiropractic (Sarkis & Skoner, 1987).

centred on the treatment of diseases based on physical signs and symptoms, Indigenous ways of healing involve processes to restore this balance which may require individual drive and efforts to attain spiritual wellness, thereby promoting human agency, or via divination processes carried out by traditional healers (Byard, 1988; Stout, 2012).

The *Two-Eyed Seeing* approach, an Indigenous framework, encourages the blending of Western and Indigenous ways of knowing with the aim of drawing strengths from both paradigms to benefit all. This approach promises to address the disproportionate prevalence of T2DM especially as the Western methods currently utilized may be seen as prescriptive, not aligning with the community needs and may not yield the desired health outcomes.

Background/Rationale

Type 2 Diabetes Mellitus (T2DM) is a progressive metabolic syndrome with a constellation of signs and symptoms associated with the impaired ability of the human body to respond to the levels of, or produce, the hormone insulin (Alberti & Zimmet, 1998). This results in the dysfunction, damage or failure of multiple vital organs with debilitating and life-threatening complications (Alberti & Zimmet, 1998; Hanley et al., 2005). The chronic disease affects people globally and contributes to increased morbidity, mortality and reduced quality of life and life expectancy, associated with both significant healthcare and human costs (Turin et al., 2016).

Burden of Disease

According to the Public Health Agency of Canada (2011), about 2.4 million Canadians are currently living with the disease. However, it should be noted that many Indigenous peoples are disproportionately affected by the disease with the prevalence rates 3 to 5 times higher than the general population ("Diabetes in Canada," 2011).

It is important to note that in 1937, T2DM was not a detectable disease among the 1500 First Nations people surveyed for tuberculosis in Saskatchewan (Chase, 1937). However, over the following six decades, T2DM emerged to be the most important noncommunicable disease for Indigenous population in Canada (Young, Reading, Elias, & O'Neil, 2000). It is estimated that the crude prevalence rates of T2DM in Indigenous populations in the last two decades range from 2.7% to 19%, with some estimates reaching up to 30% once age-standardized ("Diabetes in Canada," 2011).

The most recent national survey data (see Table 1) show that the proportion of the population reporting a diagnosis of T2DM was highest for First Nations individuals living on-reserve (aged 18 years and older: 15.3%), followed by First Nations individuals living off-reserve (aged 12 years and older: 8.7%) ("Diabetes in Canada," 2011). The Métis (aged 12 years and older: 5.8%) had a similar prevalence to the non-Indigenous population (aged 12 years and older: 6.0%) ("Diabetes in Canada," 2011). The prevalence of T2DM in the Inuit population remained lower than in these other groups, at 4.3% (aged 15 years and older) ("Diabetes in Canada," 2011). However, the rates of T2DM among the Inuit are expected to rise significantly in the future given that risk

factors such as obesity, physical inactivity, and unhealthy eating patterns are high (*Aboriginal Diabetes Initiative*, 2011).

Table 1. Prevalence of self-reported diabetes† among First Nations, Inuit, and Métis individuals aged 12 years and older, Canada, 2006, 2008-2010, 2009-2010

	Source	Age	Prevalence (%) (95% confidence interval)	
			Crude	Age-standardized‡
Non-Aboriginal	2009-2010 CCHS	12+	6.0 (5.8-6.3)	5.0 (4.3-5.7)
First-Nations (on-reserve)	2008-2010 RHS	18+	15.3 (14.2-16.4)	17.2 (16.5-19.0)
First-Nations (off-reserve)	2009-2010 CCHS	12+	8.7 (7.0-10.4)	10.3 (3.4-17.2)
Inuit	2006 APS	15+	4 (3.3-5.6)	NA
Métis	2009-2010 CCHS	12+	5.8 (4.4-7.3)	7.3 (2.2-12.5)

† Gestational diabetes cases excluded from CCHS and RHS data.
‡ Age-standardized to the 1991 Canadian population.
Source: Public Health Agency of Canada (2011), using data from 2009-2010 Canadian Community Health Survey (Statistics Canada); First Nations Information Governance Centre (2011), using data from the 2008-2010 First Nations Regional Longitudinal Health Survey (Phase 2) (First Nations Information Governance Centre); Social and Aboriginal Statistics Division, Aboriginal Peoples Survey, 2006: Inuit Health and Social Conditions: Ottawa, ON: Statistics Canada; 2008.

Also, it is important to account for the younger age structure in the First Nations, Inuit and Métis populations when comparing the prevalence of T2DM to that of the non-Indigenous population. After adjusting for this difference in age structure, the prevalence of T2DM was 17.2% among First Nations individuals living on-reserve, 10.3% among First Nations individuals living off-reserve, and 7.3% among Métis ("Diabetes in Canada," 2011). Although, as already mentioned, the crude prevalence of T2DM among Inuit has historically been well below the national average, after adjusting for the difference in age structure, the prevalence of T2DM among Inuit was comparable to the general Canadian population ("Diabetes in Canada," 2011).

However, examining the longitudinal data revealed that the prevalence over time of T2DM in some Indigenous populations is lower than that of the non-Indigenous population in Canada. For example, between 2001 and 2007, the age-standardized prevalence of diagnosed diabetes in Canadians (aged one year and older) increased by

26.8% while the prevalence in the First Nations population (aged one year and older) increased about 15.5% during the same period (“Diabetes in Canada,” 2011).

Determinants of Health Associated with T2DM

Various studies have been conducted to investigate the underlying causes of this disproportionate prevalence of T2DM in Indigenous populations. Some have concluded that the high prevalence in this group is multifactorial and mostly due to preventable environmental factors, and not genetic factors as earlier presumed (Dyck, Osgood, Lin, Gao, & Stang, 2010; E. Webster et al., 2017).

The disproportionate prevalence of T2DM among Indigenous peoples in Canada has an intricate relationship with the impacts of the activities of the colonial and post-colonial era in Canadian history. The *Integrated Life Course and Social Determinants Model of Aboriginal Health* (ILCSDMAH) as described by Reading and Wien (2009) aptly illustrates the relationship between the Indigenous determinants of health and the health outcome in focus. The multi-dimensional construct of this model reflects the interaction between various Indigenous contexts and social determinants to create vulnerabilities and capacities for health.

These Indigenous determinants of health described by this model are different from the broader social determinants of health (SDOH) outlined by the 1986 Ottawa Charter and the work of the WHO Commission on Social Determinants of Health. The SDOH include fundamental conditions for health such as peace, shelter, education, food, income, a stable eco-system and sustainable resources (“The Ottawa Charter for Health Promotion,” 1986). However, the Indigenous-specific determinants identified as the IDOH are associated with indigeneity and related to colonization, racism, loss of language and culture, and disconnection from the land (King et al., 2009). Additionally, these differences emanate from the diverse perspectives of health as conceptualized by the Ottawa Charter and the many Indigenous peoples in Canada.

The ILCSDMAH as described by Reading & Wein (2009) is layered into distal, intermediate and the proximal determinants of health. The distal determinants of health represent historical factors that exhibit a complex and profound effect on the health of populations. The distal factors involved in this health inequity are colonization, racism

and the attendant loss of self-determination of Indigenous peoples. The interwoven legacy of colonization and racism resulted in the loss of language, the historical denial of Indigenous identity, culture and tradition and cultural genocide (see Figure 1) (Goodwill & McCormick, 2012; Richmond & Ross, 2009; Stout, 2012).

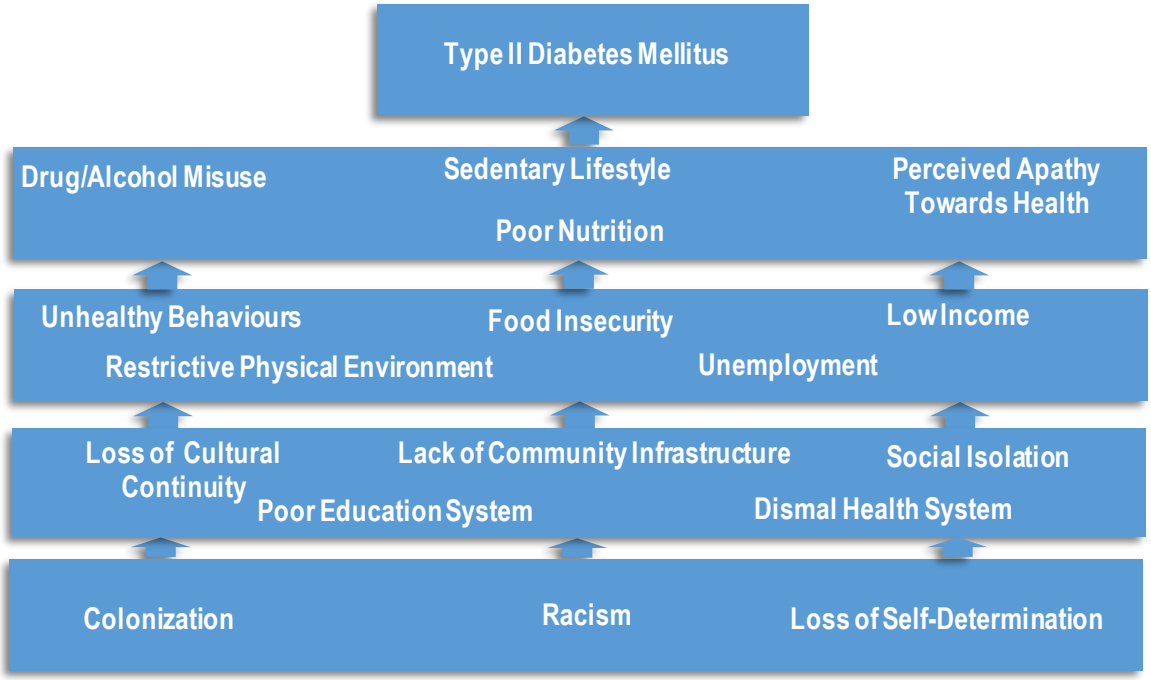

Figure 1. The interconnectedness between the IDOH relating to T2DM based on the Integrated Life Course and Social Model of Aboriginal Health according to Reading & Wien (2009).

The intermediate determinants of health are direct consequences of the distal and historic factors. These intermediate-level factors are components of the current socio-political, economic and cultural climate that are responsible, in this case, for the disproportionate prevalence of T2DM among Indigenous peoples and communities. Namely, these are the restrictive educational system such as the *Indian Residential School System* (IRSS) that engendered food illiteracy and poor engagement in physical activities; poor health delivery services that exhibits race-based discrimination against Indigenous clients resulting in apprehension when engaging the system or avoiding care altogether; dismal community infrastructure and resources; and the loss of cultural continuity by the prohibition of traditional hunting and spiritual activities (Allan & Smylie, 2015; Gadacz, 2015; Joe & Young, 1994; Reading & Wien, 2009).

The proximal determinants of health are the conditions directly linked to health. For Indigenous peoples, and specifically for the prevalence of T2DM, these factors, such as unhealthy health behaviours, restrictive physical environment due to the geographic isolation of reserves, unemployment and low income due to forced urbanization, and food insecurity leading to the substitution of traditional protein-based diet for the easily affordable carbohydrate-rich variety, all contribute to poor health outcomes (Gracey & King, 2009; Nabigon & Wenger-Nabigon, 2012; Reading & Wien, 2009). Considering the importance of diet towards the risk of developing chronic diseases such as T2DM, traditional diets and associated physical activities of Indigenous peoples have been replaced with patterns of consumption that increase the risk of developing these diseases (Earle, 2011).

Ultimately, based on the ILCSMAH model, the aforementioned factors such as persistent social neglect, lack of community infrastructure, institutionalized racism, systemic race-based discrimination experienced by off- and on-reserve Indigenous peoples and the inability to seek healing through Indigenous ways continue to perpetuate this cycle of poor prevention and management of T2DM (see Figure 1).

Ongoing Efforts to Address T2DM in Indigenous Populations

The Canadian government recognizes the growing disparity in health outcomes in Indigenous peoples and communities compared to the rest of the population and is taking measures targeted towards addressing the disproportionate prevalence and incidence of T2DM. These efforts include Health Canada's support for the *Aboriginal Diabetes Initiative* (ADI) with the total of C$523 million over 15 years to foster health promotion and T2DM prevention activities in Indigenous communities (Government of Canada, 2005). The ADI also features screening and treatment, capacity building and training, research, surveillance, evaluation and monitoring activities directed at curbing the prevalence of T2DM in Indigenous communities (Government of Canada, 2005).

However, most of the interventions described above are based on the mainstream Western approach to health which mainly focuses on the biomedical construct of health and overlooking the importance of the greater influence of other factors, especially Indigenous-specific factors, on health and well-being. It should be

noted that while the measures taken by the Federal Government are recommendable and a step in the right direction, less focus is placed on the root causes of this inequity.

According to King et al. (2009), health interventions for Indigenous peoples have been mostly designed around non-Indigenous notions of health. The interventions struggle to address the complexity of the causes of ill-health as conceived by Indigenous ideologies. These ideologies embrace a wholistic concept of health that projects physical, spiritual, mental and emotional dimensions, especially as demonstrated on the medicine wheel, in direct contrast to the Western mainstream approach based on the biomedical understanding and treatment of diseases.

Consequently, while these silo interventions may yield results in the prevention and the control of T2DM in other populations, the same results may not be achieved in Indigenous communities in Canada as the determinants of health, especially Indigenous-specific ones are yet to be addressed. This calls for urgent comprehensive solutions that would consider the underlying causes of this inequity and not focus solely on the mainstream Western approach to the prevention and the management of the disease. In the bid to minimize inequities, population health interventions should focus on embracing both Western and Indigenous ideologies as embodied in the *Two-Eyed Seeing* guiding principle.

Purpose

This paper aims to proffer recommendations based on Indigenous health frameworks to enhance the development of programs and initiatives towards ameliorating the inequitable and disproportionate prevalence of T2DM among Indigenous peoples in Canada. The purpose of this paper is to explore the ways the *Two-Eyed Seeing* guiding principle within the context of the Indigenous determinants of health (IDOH) can be utilized to enhance the ADI.

Methods

This literature review examines current community-driven interventions to address the disproportionate prevalence of T2DM among Indigenous peoples in Canada with a focus on the ADI and the *Two-Eyed Seeing* guiding principle to better understand how health interventions can be enhanced to serve the needs of underserved populations. The research question that will inform the research for this paper is: Can the integration of Indigenous Ways of Knowing and Western knowledge support community-driven T2DM interventions to achieve better health outcomes for Indigenous peoples?

A literature search was conducted on *PubMed* and CINHAL, concentrating on original full-text publications and reviews in English Language using the following search terms: “Diabetes Mellitus, Type 2”, “Noninsulin Dependent Diabetes Mellitus”, “Two-Eyed Seeing”, “Aboriginal Diabetes Initiative”, “Indigen*”, “Aborigin*”, “Indians, North American”, “First Nations”, “Metis”, “Inuit”. A targeted search for peer-reviewed and grey literature on the *Two-Eyed Seeing* guiding principle was conducted on databases specific to Indigenous health such as the *Indigenous Journal of Indigenous Health, Native Health Database* and *Pimatisiwin*. A broad search was also conducted on Google Scholar and articles relevant to the key search areas stated above were identified and selected for review.

Findings

An Overview of The Initiatives to Address the Problem with A Focus On ADI

In the face of the increasing epidemic of T2DM among Canadians and its toll on direct and indirect economic costs, the Government of Canada launched the *Canadian Diabetes Strategy* (CDS) in 1999, which was a 5-year program with C$115 million of funding. *The Aboriginal Diabetes Initiative* (ADI) was one of the four key components of the CDS; the other three were: *Prevention and Promotion of Diabetes, National Diabetes Surveillance System* and *National Coordination* (Leung, 2016).

The ADI was specifically instituted to respond to the growing concern of the disproportionate prevalence of T2DM among Indigenous peoples in Canada. The goal of the program is to help improve the health status of First Nations, Inuit and Métis individuals, families, and communities through actions aimed at reducing the prevalence and incidence of T2DM and its risk factors (*Aboriginal Diabetes Initiative*, 2011).

The ADI was intended for a 5-year cycle, but it was renewed twice in 2005 and then 2010, with a total funding of C$523 million (Leung, 2016). The funds for the latest iteration administered over five years (2010 - 2015) were committed to continue supporting health promotion and T2DM prevention activities and services. According to Health Canada (2002), the initiative's overall mandate was to address the epidemic of T2DM among Indigenous peoples by focusing its efforts in the three main areas of care and treatment; prevention and promotion; and lifestyle support. However, the Phase 3 of the ADI featured four areas of enhanced focus, including:

- Initiatives for children, youth, parents and families;
- Diabetes in pre-pregnancy and pregnancy;
- Community-led food security planning to improve access to healthy foods, including traditional and market foods; and
- Enhanced training for health professionals on clinical practice guidelines and chronic disease management strategies.

To achieve the above, *Health Canada's First Nations and Inuit Health Branch* (FNIHB) was mandated to work in collaboration with different partners and stakeholders to ensure the availability and access to health services for First Nations and Inuit communities; assist First Nations and Inuit communities to address health barriers, disease threats, and attain health levels comparable to other Canadians living in similar locations; and build strong partnerships with First Nations and Inuit to improve the health system. These are delivered in partnership with Tribal Councils, First Nations organizations, Inuit community groups and Provincial and Territorial governments (*Aboriginal Diabetes Initiative*, 2011).

The ADI includes two major divisions administered regionally through Health Canada's FNIHB i.e. the *First Nations On-reserve and Inuit in Inuit Communities Program* and the *Métis, Off-reserve Aboriginal and Urban Inuit Promotion and Prevention Program* (*Aboriginal Diabetes Initiative*, 2011). The *On-reserve Communities Program* makes up 75% of the program and is not competitive, whereas the *Off-reserve Prevention Program* funding is competitive, and delivered through a proposal request, requiring peer review for approval (Health Canada, 2002). Both divisions allocate funds based on a funding formula, following program guidelines. For the *On-reserve Communities Program*, funding is provided for three major categories: care and treatment; prevention and promotion; and lifestyle support; while for the *Off-reserve Prevention Program*, only prevention and promotion is funded (*Aboriginal Diabetes Initiative*, 2011).

To ensure a collaborative process of decision-making, a *National ADI Steering Committee* was formed to guide the implementation and delivery of the ADI, and includes representatives from the major Indigenous representative organizations, *Health Canada*, and the *National Aboriginal Diabetes Association* (Health Canada, 2002).

Although an evaluation framework was created for the ADI, Health Canada is yet to publish comprehensive evaluation reports of previous iterations of the initiative to inform subsequent ones. However, some community programs funded by the ADI have published reports providing evidence of the successes of these individual programs as the basis for the renewal of funding ("SPHERU," 2014; Health Canada, 2012; Leung, 2016). Despite the success of the ADI documented by these individual programs, more needs to be done to completely address this inequity.

An Overview of *Etuaptmumk* - The Two-Eyed Seeing Guiding Principle

The concept of worldviews has been described as mental lenses that are entrenched ways of perceiving the world (Hart, 2010). They are cognitive, perceptual, and affective maps that people continuously use to make sense of the social landscape and to navigate its contours to achieve whatever goals they seek. These perspectives are developed over time through specific knowledge creation and acquisition and progressively altered by its intergenerational transfer and the processes of socialization and social interaction (Hart, 2010). While all paradigms can change slowly over time, they rarely alter in any significant way (Hart, 2010).

Indigenous worldviews are no different. Through time they have been altered while undergoing development in diverse cultures and ways of cultural expression. There are therefore differences between different worldviews as held by different Indigenous communities, Nations and Peoples (Hart, 2010).

However, the commonalities between Indigenous worldviews are evident and documented in the literature (Rice, 2005). Rice (2005) explained that Indigenous worldviews emerged as a result of the people's close relationship with the environment. Simpson (2001) outlined some of the principles of Indigenous paradigms and processes. First, and foremost, knowledge is wholistic, cyclic, and dependent upon relationships and connections to living and non-living beings and entities. Secondly, the relationship between people and the spiritual world is important as knowledge largely originates from the spirit world. In addition, there are many truths, and these truths are dependent upon individual experiences. Finally, all things – life forms, beliefs, knowledge systems, worldviews, etc. - are equal.

Therefore, Indigenous worldviews highlight a strong focus on people and entities coming together to help and support one another in their relationships built on equality. This has been called a relational worldview (Crofoot Graham, 2002). It is important to note that within a relational worldview, for many Indigenous peoples, the emphasis is on spirit, spirituality and a sense of community which embraces respectful individualism where an individual enjoys great freedom in self-expression. However, this individualism, exhibited by the freedom of self-expression, is recognized by the society that individuals

place the needs and considerations of the community above theirs (Crofoot Graham, 2002; Rice, 2005). This relational worldview is carried forward in discussions on Indigenous peoples' knowledge and, consequently, the ideals behind *Etuaptmumk*[2] – the *Two-Eyed Seeing* guiding principle.

The concept emerged from the teachings of the late spiritual leader and healer Chief Charles Labrador of Acadia First Nations in Nova Scotia. He said:

> Go into the forest, you see the birch, maple, pine. Look underground and all those trees are holding hands. We as people must do the same. (Marsh et al., 2015, p. 5)

The terminology was first described in the literature by Mi'kmaw Elders Albert and Murdena Marshall to describe the bridging of Western science and Indigenous ways of knowing in order to achieve better health outcomes (Marsh et al., 2015; Martin, 2012).

Two-Eyed Seeing is a philosophical, theoretical, and/or methodological approach that recognizes the need for both Western and Indigenous paradigms and approaches in research, knowledge translation, and programme planning, development and implementation (Marsh et al., 2015). It should be noted that it does not necessarily mean combining different worldviews, but that an *ethical space* is created where both views are respected and one understanding is observed using the lens of another (J. Ermine, 2000). According to Ermine (J. Ermine, 2000), the fact that two objectivities exist, each claiming their own unique worldview, creates the urgent necessity for an understanding of what constitutes this cultural divide. So, ethical space represents a location from which a meaningful dialogue can take place between adherents of different worldviews towards the negotiation of a new understanding that ultimately engages different knowledge systems (W. Ermine, Sinclair, & Jeffery, 2004).

Therefore, *Two-Eyed Seeing* moves beyond the simple dichotomies of Western sciences and Indigenous knowledges. Rather, it draws on the strengths of both theoretical constructs to build and establish meaningful relationships with all people that promote a sense of belonging with the aim to achieve results beneficial to all (C. Bartlett et al., 2010). Through the analogy of two eyes, the realization that no one perspective is ever complete emerges. It also negates the assumption that by the creation of

[2] *Etuaptmumk* is the Mi'kmaw word for *Two-Eyed Seeing* (Marshall, 2004).

dichotomies and dualisms, borders can be drawn between one type of knowledge and another (Martin, 2012).

Two-Eyed Seeing acknowledges and respects diverse worldviews and, true to the principles of Indigenous worldviews, does not aim to hold one superior above the other but emphasizes that an understanding is built towards achieving better health outcomes for Indigenous peoples and communities. The application of the concept of *Two-Eyed Seeing* advocates for inclusion, trust, respect, collaboration, understanding, and acceptance of the strengths that reside in both Western and Indigenous worldviews (Marsh et al., 2015). *Two-Eyed Seeing* requires a "weaving back and forth" between knowledges and knowledge systems, and this draws upon the abilities to meaningfully and respectfully engage in an informed manner in collaborative settings (Marshall, 2004). Through collaboration and the demonstration of mutual respect in worldviews, *Two-Eyed Seeing* encourages Indigenous and non-Indigenous peoples to develop a relationship of mutual cultural respect, wherein the benefits of both worldviews are acknowledged as beneficial in the healing processes.

Notably, health and wellness are often seen in different perspectives per Indigenous and Western worldviews. Unlike the biomedical approach to health indicative of the Western knowledge system, the journey to health and wellness in Indigenous ways of knowing takes a wholistic route (King et al., 2009). It should also be noted here that while there are variations within Western epistemologies such as interpretivism/constructivism, pragmatism and post-positivism that bear some similarities with Indigenous worldviews, the focus of this paper is on positivism as a Western method of scientific inquiry that dominates the biomedical field (Mackenzie & Knipe, 2006; Sale, Lohfeld, & Brazil, 2002).

In Indigenous worldviews, individual acts of engaging in spirituality and the collective participation in traditional and healing ceremonies conducted by Elders and healers all contribute towards achieving spiritual healing and wellness necessary for physical health (Byard, 1988; Gadacz, 2015). Healing, from the Indigenous perspective, is described as a journey to achieve self-knowledge and self-awareness as well as being in tune spiritually with Creation (Hill, 2008). This adoption of a wholistic and population health approach to Indigenous wellness takes into cognizance the importance of other measures of health other than physical signs and symptoms of diseases.

While it has been suggested that Indigenous concepts and practices are beginning to be accepted within mainstream health, it has been noted that too often these are marginalized or viewed as secondary to the strategies and techniques emerging from the dominant Western paradigms (Hart, 2010). This concern of marginalization is heightened by acknowledging the extent to which the principles driving population health interventions to address health inequities experienced by Indigenous peoples are based on the dominant, and often seen as prescriptive, Western worldviews and values.

Therefore, if the aim is to achieve the healing of Indigenous communities, especially in the realm of chronic diseases such as T2DM, a decolonizing approach to health by utilizing Indigenous perspectives in collaboration with Western knowledge ought to be considered. The *Two-Eyed Seeing* guiding principle, as an Indigenous health framework, provides promising solutions to the inequitable prevalence of T2DM in Indigenous communities.

Discussion and Recommendations

Decolonizing Indigenous Health: An Underlying Approach to Health Equity

Understanding the Indigenous determinants of health as described by the *Integrated Life Course and Social Determinants Model of Aboriginal Health* clarifies and recognizes the fundamental differences in health outcomes to Indigenous peoples in Canada compared with the general population. As earlier stated, these disparities emanate from a foundation of racism, loss of self-identity and, especially, colonization (Reading & Wien, 2009).

Jacklin & Warry (2011) suggested that Indigenous health status, services, and policy evolved from colonial systems and that the decolonization of Indigenous healthcare is a necessary step toward the equity of healthcare. Chronic diseases such as T2DM have negatively affected Indigenous populations following contact with Europeans as the Indigenous approach to wellness and healing simultaneously experienced a monumental decline over the decades due to the subsequent impacts of colonization and racism, the delegitimization of the expression of Indigenous culture, and the extolment of conventional mainstream medicine as the only acceptable mode of healthcare delivery. A reverberating effect of colonialism is the damage to intergenerational connections and the devaluing of traditional knowledge (Iwama, Marshall, Marshall, & Bartlett, 2009).

Understanding health disparities using a decolonization framework by recognizing that the historical and contemporary relationship that exists between the Canadian government and Indigenous peoples perpetuates existing inequities and continues to shape the initiatives designed to address them paves the way for the development of effective and meaningful ways to better address them (Bruce, 2016; Jacklin & Warry, 2011).

With respect to the variations in Indigenous worldviews and the understanding of the constructs of the medicine wheel as earlier stated, decolonization does not mean that Indigenous peoples' health is understood as a collective phenomenon, ignoring cultural diversity, but that the underlying structure characterizing federal health systems

is based on a colonial legacy, affecting all Indigenous peoples (Jacklin & Warry, 2011). This means that previous governing acts in Canada have often undermined culturally based conceptions of disease, illness, health and wellness rooted in Indigenous knowledge (Jacklin & Warry, 2011).

Decolonizing Indigenous health means recognizing that the solution to complex health issues in Indigenous communities lies outside the health sector but within the foundational public policies governing the health sector and the leadership guiding these policies (Jacklin & Warry, 2011). To achieve decolonization, Indigenous peoples ought to possess complete control over their health and take back agency towards reclaiming self-identity and self-determination. Indigenous peoples must begin to gain greater control over the implementation of health programs in their communities.

Defining Capacity

The capacity of Indigenous communities to create and support services and programs funded through the ADI is important. Governmental organizations and

Figure 2. Defining Capacity from a Strength-based Approach

program officers define capacity in part by the infrastructure that communities have, and the ability for communities to use infrastructure to implement programs (Health Canada, 2002). This is a necessary requirement to secure funding through the ADI. For example, a performance indicator of the capacity of First Nations and Inuit communities to deliver community-based health promotion and disease prevention programs and services, is the number of workers who completed training for healthy living programs (Health Canada, 2002). In addition to infrastructure, the abilities of trained personnel to implement long-term planning of services are also used as indicators of relative capacity between communities (Health Canada, 2002). This definition of capacity is often understood as an asset-based approach, in which communities either have, or do not have, a number of characteristics.

While the inclusion of these variables can be considered an indicator of capacity between communities, it is not a wholistic definition of capacity. Definitions of capacity in Indigenous communities can be much broader and inclusive of local social networks, sense of community, community cohesion, Elders, history, power, values, culture, territory, language, identity, and sovereignty (see Figure 2) (Bruce, 2016; Jacklin & Warry, 2011).

Recommendations

To further the discourse of decolonization and ameliorate the disproportionate prevalence of T2DM, the following recommendations, based on the collaborative principles of *Two-Eyed Seeing,* are proffered at 3 different levels: at the community level, between the community and the Federal government, and at the level of the Federal government.

At the Community Level

While these recommendations are intended to build program capacity within communities, they are not the sole responsibility of Indigenous communities. The federal, provincial and territorial governments have a responsibility to the *Truth and Reconciliation Commission's (TRC) Calls to Action* to improve Indigenous health. The purpose of these recommendations is to improve capacity and address the root causes

of persistent barriers that exist when accessing and implementing ADI funding and T2DM services.

The first recommendation is to promote community and individual spiritual wellness by the revitalization of culture. Research has shown that culture and tradition are important to the health of Indigenous peoples. According to Edge & McCallum (2009), a public poll conducted in 2002 found that eighty percent of Métis people consider the revitalization of Indigenous culture and traditions necessary towards improving the current health care delivery system. Stout (2012) stated that T2DM needs to be addressed by the celebration of traditional ceremonies, spiritual wellness and personal agency.

The second recommendation at the community level is to strengthen community capacity, such as knowledge, skills, training, resources, and supports for administrative and health care staff, individuals, and families. Some measures that could be taken to increase community capacity include the development of a community-based trained position that serves as a reservoir of knowledge about federal health funding, specifically how the ADI is funded. A person in this position could aid by co-developing T2DM programming that meets the needs of communities, during the application and reporting processes required by the ADI. With knowledge and resources about how to both effectively apply for and utilize ADI funding, stronger T2DM programming could become available to the communities.

The third recommendation is to promote growth in capacity and education through local empowerment. By building community capacity, people can become empowered to achieve the greatest possible autonomy over their health and well-being by providing supports for decision making. As the concept of empowerment can take different meanings under different cultural contexts, it is important that efforts at empowerment are contextualized.

The fourth recommendation is to continue to increase initiatives that provide local access to traditional nutritious and affordable food, and opportunities for physical activity. Local production of food contributes to improved food security, especially in remote communities, and encourages participation in cultural activities which are beneficial for biological and psychological aspects of health (Earle, 2011). Using local greenhouses,

gardens and hunting as sustainable resources is a desirable and cost-effective way to reduce lifestyles associated with T2DM. While individual families may have gardens, and participate in hunts, community-wide activities could improve community cohesion. If desired, a recommendation is to incorporate greenhouse maintenance into volunteer or school-based activities.

The fifth recommendation is to continue to address T2DM wholistically using Indigenous knowledge and culture. For ADI programs, there is an emphasis on wholistic methods that recognize community capacities, but communities may be unable to address all issues relating to the ADI mandate. By emphasizing wholistic health and well-being, communities are able to address lifestyles associated with chronic T2DM and also other current health issues within communities. A pilot program launched by the *Ontario Ministry of Health and Long-Term Care* (MOHLTC) based on lifestyle interventions focused on weight reduction, dietary change and physical activity achieved commendable results in reducing the risk of developing T2DM in 6 teams which included Indigenous communities (Hillmer et al., 2017). Opportunities for scaling up these tested interventions should be actively pursued.

In summary, the recommendations within this section relate to activities at the community level. These recommendations are not the sole responsibility of Indigenous communities, but can be achieved through partnerships, communication, and collaboration with the federal, provincial and/or territorial governments, as well as various health organizations. A final summary of recommendations at the community level to increase the quantity and quality of T2DM supports through ADI funding includes:

- Promoting **community and individual spiritual wellness** by the revitalization of culture.
- Continuing to **build local capacity** such as knowledge, skills, training, resources, and supports within the community such as administration and health care staff, individuals, and families.
- Continuing to **empower** people to achieve the greatest possible autonomy over their health and well-being by providing all available supports for decision-making.
- Continuing and increasing initiatives that **provide local access** to nutritious and affordable food and opportunities for physical activity such as local greenhouses and community hunts.

- Continuing to address T2DM as a disease that affects **wholistic health and well-being**.

Between the Community and the Federal Government

It is important to recognize that more than just geographical distance exists between Indigenous communities and the administration of the ADI within the Federal Government. There is also a cultural and political distance that exists. These recommendations are targeted towards bridging the gap in the way Indigenous communities are involved in the decision-making processes of the ADI and receiving funding, as well as to strengthen collaboration between the communities and Federal Government departments. The recommendations are the responsibility of local communities, the federal, provincial and territorial governments and any organizations that form a partnership with Indigenous peoples.

The first recommendation is to provide Indigenous wellness centres for use in Indigenous communities and in urban settings. As part of the efforts to address the health inequities experienced by Indigenous peoples, it is important that special Indigenous wellness centres are built, funded and maintained by the federal, provincial and territorial governments of Canada. These centres would go a long way in providing the necessary space and opportunities for addressing and healing the intergenerational trauma experienced by Indigenous peoples. The centres, by bringing people together, would also contribute towards promoting social cohesion needed in communities to combat chronic diseases such as T2DM. This is reiterated by the TRC's 21st *Call to Action* thus:

> We call upon the federal government to provide sustainable funding for existing and new Aboriginal healing centres to address the physical, mental, emotional, and spiritual harms caused by residential schools, and to ensure that the funding of healing centres in Nunavut and the Northwest Territories is a priority. (Truth and Reconciliation Commission of Canada, 2015, pg. 3).

It is also strongly recommended that all health care professionals are adequately trained and offered retraining opportunities in cultural competency and cultural safety (Young et al., 2000). The curricula in medical and nursing schools should include Indigenous knowledge and health. This is aimed at eventually bridging the power gap between health providers and their clients to foster meaningful and respectful

relationships (Arkle et al., 2015). Health providers are to be required to be able to deliver care in a culturally appropriate manner and within culturally safe spaces to Indigenous clients (Hanley et al., 2005; Maher, 1999). Their training should be trauma-informed and involve taking steps to heal the intergenerational trauma experienced by their Indigenous clients (Arkle et al., 2015). Medical and nursing schools should work well with Indigenous communities to develop admission policies that would prioritize equity and increase the recruitment of Indigenous students into health professions (Arkle et al., 2015). Also, training opportunities should also be made available to professionals involved in health research, policy formulation and programming. This recommendation is in line with the 23rd and the 24th Calls to Action of the TRC:

> 23. We call upon all levels of government to:
> i. Increase the number of Aboriginal professionals working in the health-care field.
> ii. Ensure the retention of Aboriginal health-care providers in Aboriginal communities.
> iii. Provide cultural competency training for all healthcare professionals.
>
> 24. We call upon medical and nursing schools in Canada to require all students to take a course dealing with Aboriginal health issues, including the history and legacy of residential schools, the *United Nations Declaration on the Rights of Indigenous Peoples*, Treaties and Aboriginal rights, and Indigenous teachings and practices. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism. (Truth and Reconciliation Commission of Canada, 2015, pg. 3)

The third recommendation is that Indigenous peoples should be engaged and actively involved in all forms of health research, policy formulation and decision-making concerning them. All these activities involving Indigenous peoples should abide by OCAP™ principles of Ownership, Control, Access and Possession of all information collected (The First Nations Information Governance Centre, 2014). The sovereignty of Indigenous peoples and communities over decision-making contributes towards the aspirations of self-determination and self-governance. Article 19 of the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) states that:

> States shall consult and cooperate in good faith with the Indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them

> ("United Nations Declaration on the Rights of Indigenous Peoples," 2008, pg. 8).

Therefore, all interventions including health research and policies to address the prevalence of T2DM must involve Indigenous communities as equal and shared owners from the conceptual stage to the delivery of such interventions.

The fourth recommendation is to promote intercultural care within the existing healthcare delivery system. It is essential that healthcare is administered to Indigenous peoples in ways that are relevant and synchronous with their culture and tradition (Young et al., 2000). The 22nd Call to Action of the Truth and Reconciliation Commission (TRC) is as follows:

> We call upon those who can effect change within the Canadian health-care system to recognize the value of Aboriginal healing practices and use them in the treatment of Aboriginal patients in collaboration with Aboriginal healers and Elders where requested by Aboriginal patients (Truth and Reconciliation Commission of Canada, 2015, pg. 3).

Furthermore, it is important to note that the Alma-Ata declaration on primary health care (PHC) by the World Health Organization (WHO) in 1978 emphasized the importance of the incorporation of traditional medical practitioners into the delivery of healthcare as part of a pluralistic medical system (Hixon & Maskarinec, 2008). Oliver (2013) described medical pluralism as a system that supports the adoption and integration of biomedical healthcare with traditional medical practice, or the concurrent application of both treatment methods. This form of healthcare delivery is generally described as a variety of therapeutic methods and techniques rooted in traditional, philosophical, and empirical systems of medicine that view health and disease in the context of the human totality of body, mind, and spirit (Ben-Arye, Frenkel, Klein, & Scharf, 2008).

As clearly stated by the TRC and supported by the Alma-Ata declaration, it is imperative that traditional Indigenous healing practices are made available within existing health care delivery systems. Health authorities should prioritize employment of Elders and traditional healers to exist in the same space as physicians and nurses and make the necessary structural changes required for implementation in order to deliver optimal care to Indigenous clients. Furthermore, a blended approach can strengthen

relationships between Indigenous and non-Indigenous service providers and encourage cultural understanding.

The fifth recommendation in this section is the continuation of coordination, communication, and collaboration through partnerships between Indigenous communities, the federal, provincial and territorial governments, and various organizations working with Indigenous peoples. Continual collaboration can help to ensure a comprehensive response to the rising T2DM prevalence in Indigenous populations.

Finally, the last recommendation in this section is to continually improve and expand innovative service delivery models e.g. outreach programs and shared care models to reduce the burden of travel for residents of rural and remote communities. While it may not be economically feasible that all communities have local access to all services, by increasing the amount of these innovative practices that are delivered regularly to rural and remote communities and expanding resources and funding for programs currently ongoing, there will be more equitable dissemination of health services and education related to T2DM.

In summary, the recommendations made at this level relate to relationship building between Indigenous communities, the federal, provincial and territorial governments, as well as various health organizations. As there is a recognized distance, geographically, culturally, and politically, that exists between individual communities and the Federal Government, these recommendations can aid in closing the current space that exists. A final summary of recommendations at the level between the community and the Federal Government includes:

- Provide **Indigenous wellness centres** in Indigenous communities and urban settings.
- Continually **train non-Indigenous and retain Indigenous service providers**.
- Continually promote **self-determination in health research, policy formulation and decision making** involving Indigenous peoples.
- Promote **intercultural care** within the existing healthcare delivery system.
- Continuation of **coordination, communication, and collaboration** Indigenous communities, the federal, provincial and territorial governments and various organizations.

- Continually **improving and expanding innovative service delivery models** that reduce the burden of travel for residents of Indigenous communities.

At the Level of The Federal Government

The following recommendations are directed at the Federal Government in its efforts to address the disproportionate prevalence of T2DM in Indigenous populations.

The first recommendation at the level of the federal government is the need for a commitment of consistent and adequate funding for the ADI. Consistent funding is essential to continue to support Indigenous peoples living with T2DM. The commitment to consistent funding from the ADI will also aid staff to financially plan future services and programs within their communities.

The second recommendation relates to changes that are needed in federal funding application procedures. Potential sources of barriers may exist when completing applications, and if required, completing fiscal reporting on the funding of a successful application (Bruce, 2016). There should be more transparent application guidelines, personnel to aid in the grant writing processes, and feedback on applications that were not successful. It would be beneficial for applicants to have a contracted federal health policy staff position that could provide more guidance on applications. While these supports may exist, some communities may be unaware of this information and unsure how to locate these resources. If health agencies acknowledge the variable capacities that exist between Indigenous communities, changing funding procedures that reflect those inequities would create greater opportunities for staff to gain funding for Indigenous communities. More outreach from funding agencies could also aid staff to create successful applications, by having more knowledge about agency-specific processes of administering funding. This communication could aid staff in creating more successful applications.

The third recommendation is the need to expand access to supportive resources for Indigenous communities from various departments and organizations (e.g. *Telehealth*, FNIHB, ADI, and the *Canadian Diabetes Association*). Supportive resources may include, but are not limited to: resource and information sharing, professional development, answering questions regarding application processes and paperwork, informational sessions, and educational workshops. While these are needed at the

community level, policy changes in these areas are more likely to be implemented by levels of government and health departments administered by the federal government. These supportive resources could be available by phone, email, or in-person.

The fourth recommendation is a commitment to ensure the collection of reliable and consistent community-level and -specific health data (e.g. T2DM, other associated chronic diseases, obesity, BMI) (P. C. Webster, 2012). Consistent data are needed to better understand and justify dissemination of resources for T2DM. If provided in usable formats, these data could also support staff during their application of health care funding. The TRC supports this recommendation in that they assert in call number 19:

> We call upon the federal government, in consultation with Aboriginal peoples, to establish measurable goals to identify and close the gap in health outcomes between Aboriginal and non-Aboriginal communities, and to publish annual progress reports and assess long-term trends (Truth and Reconciliation Commission of Canada, 2015, p. 2-3).

The final recommendation is a commitment by the federal government and its funding agencies towards Indigenous staffing of agencies and organizations involved in health research, policy, program planning and implementation and health delivery services. The government should also maintain the commitment to fund training and retraining opportunities in cultural competency and cultural safety for existing health professionals.

In summary, the recommendations made within this section relate to activities at the level of the federal government. These changes may mean not only improving current funding systems, but changing the system towards achieving decolonization. A final summary of recommendations at the level of the federal government includes:

- A commitment of **consistent and sufficient funding** for the ADI.
- Changes **in funding application procedures** for health-related infrastructure, services, and programs funded by federal and/or territorial governments and health organizations.
- Expansion of **access to supportive resources** (e.g. *Telehealth*, FNIHB, *Canadian Diabetes Association*) to provide education and programming for those who require supports for decision-making, paperwork, etc.
- Commitment to ensure the **collection of reliable and consistent community-level and -specific health data** (e.g. T2DM, associated chronic diseases, obesity, BMI).

- A commitment to **fund Indigenous staffing and cultural competency and safety training opportunities** for health professionals.

Possible Implementation Implications and Challenges

These are some of the implications expected and the challenges involved with implementing the above recommendations.

Challenges with Research and Within the Research Community

Limitations for blending Indigenous and Western approaches could include the risk of continuing to undermine Indigenous peoples and knowledge. Historically, Indigenous communities have unwillingly participated in research with little or no understanding of the purpose or practice that would be undertaken. The outcomes of these research projects were often misguided and harmful to the communities (J. G. Bartlett, Iwasaki, Gottlieb, Hall, & Mannell, 2007). Thus, the way in which approaches are blended and facilitated must take into account the values, practices, and beliefs of Indigenous peoples in a way that is respectful and inclusive.

In addition, many researchers and treatment providers made statistical generalizations by treating Indigenous peoples as if they were one large group without recognizing cultural diversities (Bruce, 2016; Jacklin & Warry, 2011). In order to avoid this risk, clinicians and researchers must recognize that each group of Indigenous peoples have cultural concepts that are specific to that particular group.

Challenges Within the Healthcare Delivery System

Also, it is important to note that some practitioners of mainstream Western medicine may not be willing to collaborate with Indigenous practitioners within the same space (Nabigon & Wenger-Nabigon, 2012). Byard (1988) found that traditional methods are easily dismissed due to the lack of research and representation in Western literature. As they do not necessarily comply with the empirical tradition of Western medicine, traditional healing practices are often relegated to the realm of magic and considered unsafe and ineffective (Robbins & Dewar, 2011).

However, Robbins & Dewar (2011) also noted that the perceptions and attitudes of the medical community in North America are gradually changing positively towards Indigenous healing practices. Initial research has shown that traditional methods are astute and the call has been made for more research to be conducted to benefit the entire medical community (Byard, 1988; Maher, 1999). Despite the changing socio-political landscape within this community, more work needs to be done to ensure a successful and seamless integration of Indigenous healing practices into existing healthcare delivery spaces.

Lack of the Capacity and Willingness to Engender Decolonization at the level of the Community

Another potential limitation of blending approaches include the reality that many Indigenous communities lack the resources to recover and revitalize their language and culture (King et al., 2009). It should be noted that the transmission of Indigenous knowledge has declined over the decades due to the assimilation of Indigenous peoples into the dominant society (King et al., 2009). The methods employed such as the IRSS have drained the communities of Elders, who are the usual custodians of Indigenous knowledge. The disconnection from parental guidance, and hence the transfer of Indigenous knowledge, will impact knowledge transfer and sharing going forward.

Also, due to the historic undermining of Indigenous culture and the surbodination of Indigenous work to Western perspectives, custodians of Indigenous knowledge may be wary to share this knowledge with mainstream health researchers and professionals. History has recorded various betrayals committed by researchers to Indigenous peoples after gaining the trust of these communities (The First Nations Information Governance Centre, 2014).

Lack of The Political Will to Implement Indigenous-Specific Recommendations

On the international scene, despite support from other nation-states, it is unfortunate to note that the governments of Canada, New Zealand, United States and Australia were reluctant signatories of the UNDRIP (Robbins & Dewar, 2011). Therefore, it remains to be seen if these agreements will be completely reflected in their policies

and practices. While the present Liberal government has fully endorsed the UNDRIP, its actions, such as the approval of Pacific Northwest LNG project and other pipelines without the *free, prior and informed consent* of the Indigenous communities that would be impacted by these projects, has undermined the principles of the document (Patterson, 2016).

Consequently, these acts reflect a possible inadvertent undermining of Indigenous peoples' aspirations to achieve self-determination and may translate into a lack of the political will to address health inequities such as the disproportionate prevalence of T2DM.

Poor Resources and Support Systems

Finally, another barrier to the implementation of blended research and interventions is the poor awareness of rural and northern issues across provincial government organizations, including the social determinants of health; Indigenous health; existing policies, funding, programmes, and services; and the shortage of Indigenous doctors, researchers, and other health-care professionals in the north. There may be substantial issues implementing the *Two-Eyed Seeing* Indigenous decolonizing methodology without these vital resources and systems of support (Marsh et al., 2015).

Conclusion

In conclusion, the *Two-Eyed Seeing* guiding principle as a wholistic and Indigenous conceptual framework creates opportunities to further understand the underlying causes of health inequities such as the disproportionate prevalence of T2DM among Indigenous peoples and provides promising solutions to address these disparities. Characteristic of Indigenous paradigms and epistemologies, the guiding principle aims to explore and capitalize on the strengths of dissimilar worldviews and ways of knowing.

It is a known fact that all people - Indigenous peoples included - heal best by participating in their tradition and culture. For Indigenous peoples in Canada, this has become a necessity to attain the essentials of life. The acculturation of Indigenous peoples in Canada has led to unacceptable health inequities that calls for immediate efforts to address them. Indigenous knowledge does not need legitimization; it only needs a respectful space for expression. Indigenous ways of healing and wellness should not be measured against the empirical tradition of Western medicine, rather, they should both exist within the same ethical space which respects both concepts. The ethical space defined by the *Two-Eyed Seeing* guiding principle must be embraced by all to nurture the level of trust required to address the disparities in health outcomes experienced by Indigenous peoples in Canada.

In terms of future directions, community-based feasibility studies could be implemented to explore the implementation of the *Two-Eyed Seeing* guiding principle in Indigenous communities and urban settings. Such studies could shed light on this subject and contribute to a better understanding of achieving wellness as a determinant of health in Indigenous populations. Also, studies where community members are asked how best Indigenous traditional healing practices and Western models could be integrated in their communities could be a valuable contribution to research. The wisdom and teachings from Elders and community members from different geographical areas could be a valuable endeavour in the field of research on this topic.

Finally, to achieve effective and meaningful health outcomes, especially in addressing the disproportionate prevalence of T2DM among Indigenous peoples, all discussions, policies, decisions and program planning and implementations should be

centred around the discourse of decolonization, stemming race-based discrimination and healing the intergenerational trauma endured by the Indigenous peoples in Canada.

Summative Reflection

Completing the capstone provided an avenue for me to apply the key learnings of the MPH program and reflect on the broader implications of applying theory to practice. I was able to examine the burden and distribution of a disease, explore the determinants associated with its prevalence, investigate related inequities and elucidate possible solutions based on work grounded in the literature.

I acknowledge that my experiences as a *Yoruba* Nigerian indigenous person, with parental roots from *Ewe*, Ghana, while bearing some similarities with regards to racism and colonialism, contrasts with the experiences of Indigenous peoples in Canada. Prior to my enrolment in the MPH program, despite recognizing the impacts of the historic and systemic marginalization of Indigenous peoples around the world, I had inadvertently apportioned part of the blames of the health disparities experienced by Indigenous peoples on them. It suffices to say that, as at then, my knowledge of the subject was gravely limited. I was baffled at their inability to progress per societal standards especially in the wonderful country of Canada.

However, at the completion of the program, I have realized that even though both populations share a history embedded in and shaped by colonization and race-based discrimination, it is important to note that our ancestral lands were vacated unlike the continued presence of colonial forces on the Indigenous lands of Canada. While Africa is currently dealing with novel challenges posed by neocolonialism within the international socio-economic and political sphere, the Indigenous peoples in Canada are still battling with the realities of forced occupation of land, loss of identity and erosion of culture. Despite sharing a common past, the current situations in both populations are vastly different, thereby limiting my credentials to adequately tell their story. However, I am grateful to my teachers – Indigenous and non-Indigenous allied scholars - and to the Indigenous peoples in Canada for granting me the opportunity to contribute to the literature.

Also, being trained as a physician, my disposition had always been towards scientifically proven methods and biomedical approaches to the management and treatment of diseases. Although, during my practice, I had often favoured traditional and seemingly unconventional methods in the non-pharmacological therapeutic methods

such as counselling and psychotherapy, but had drawn the line on the use of herbs, especially when inadequately researched, to manage critical ailments such as life-threatening infections. To be candid, I had never given much consideration to the benefits of spiritual wellness in improving the health of individuals and communities. This bias towards empirical methods initially posed as a source of internal conflict while researching this paper.

However, in Indigenous literature, I have found that the best way to engage with others in a respectful and a meaningful way is to *unlearn what I have learned.* It entails coming to the table with an open mind and being receptive enough to not only *hear* from others, but to *listen* to them. The Indigenous worldview and paradigms, as succinctly described by the *Two-Eyed Seeing* guiding principle, is a respectful one that believes in and embraces the peaceful co-existence of all humans irrespective of their systems of beliefs, values and principles.

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