Type 2 Diabetes:
A State of Emergency in the Indigenous Community

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Indigenous means *belonging naturally to a place* (Hill et al., 2008). *Indigenous* peoples living in Canada is the collective group of peoples made up of the First Nations (60.8%), Inuit (4.2%) and Metis (32.3%) population. They are the original occupants of this land. The name *Indigenous* is replacing the term *Aboriginal* and will be used in this article when referring to this collective group (Government of Canada, 2016).

Diabetes mellitus, branded the *diabesity epidemic*, is one of the fastest growing global health problems. Type 2 diabetes (T2DM; non-insulin dependent) as compared to Type 1 diabetes (T1DM; insulin dependent), is much more prevalent and has gone from 108 million to 422 million worldwide in the last 3 decades. Once considered an adult disease, T2DM is now being diagnosed in younger age groups (World Health Organization, 2016b).

The rising rates of T2DM we are witnessing are disturbing because diabetes is associated with increased morbidity, mortality, life expectancy, and high health care costs. The prevalence of diabetes in Canada alone has more than doubled within the last 10 years. It currently affects 2.4 million Canadians and consumes an excess of $9 billion of the annual health budget. Of particular interest is the 3 to 5 times higher rate of T2DM in the Indigenous living in Canada, as compared to the rest of the population (Canadian Diabetes Association Clinical Practice Guidelines Expert Committee, 2013). The Indigenous represent 4.3% of the overall population (1.4 million), yet they are over-represented in the prevalence of T2DM (Turner & Statistics Canada, 2013). They are diagnosed with T2DM at a younger age, develop complications 2 to 5 times more often and die earlier than their non-Indigenous Canadian counterparts (Lynn F. Lavallee, 2011).

Canada is considered a first world country. It ranks as one of the top 5 best countries for human development in the world (UN, 2006). Yet for the Indigenous living in Canada physical and social isolation, lack of employment, lack of access to clean water, inadequate housing, cultural deprivation, individual and collective discrimination and substandard education are the norm (Indigenous Peoples Indigenous Voices, Backgrounder, 2010). If the Indigenous population were isolated as a sub-group they would rank 48th out of 174 countries for their level of overall development and 71st for education (Fasta, E. and Collin-Vézina, D., 2010).

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Approximately 80% of diabetes in the Indigenous population is of Type 2 Diabetes with a higher prevalence in Indigenous women than Indigenous men (First Nations Information Governance Centre, 2011).

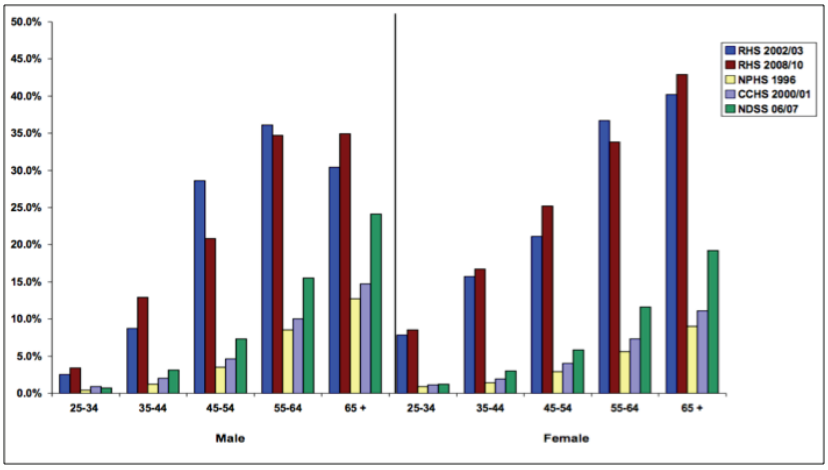

Figure 1: Proportion of Diabetes among First Nations Adults and the General Canadian Population by Age and Gender (First Nations Information Governance Centre, 2011)

A recent life time risk analysis study, used to communicate disease burden, foresees that 80% of Indigenous young adults and 50% of non-Indigenous young adults will develop diabetes in their remaining lifetime (Turin et al., 2016).

How has T2DM reached these historically high levels in Canada? Why are numbers substantially more extensive in the Indigenous population? Up until now, the treatment for T2DM has focused on the body's inability to regulate insulin. However, the rate of diabetes continues to rise at record levels in Canada and worldwide. Addressing the symptoms only in the physical realm ignores all other aspects of the problem. The body functions as a whole and everything is interconnected. In Anthropology the relationship between human biology, behaviour, society and culture is critical when trying to understand the primary causes of disease (Steve Ferzacca, 2012) (Bendix, 1967). To get to the root of the T2DM epidemic, we need to dig deeper. We need to explore the social and systemic factors, from both an individual and a collective view point, within cultural, political and historical contexts (Lavallee, 2011).

The source of the diabetes problem in Canada is complex, multifaceted and deeply entangled in Canada's dark political history of the last ~300 years. This time period also referred to as the *cultural genocide*, was a deliberate crusade to integrate the Indigenous population into the Euro-Christian community (Rt. Hon. Beverley McLachlin, P.C. & Chief Justice of Canada, 2015). The mechanism was simple: Annihilate Indigenous political and social structures. Beginning in the 1760's Indigenous peoples were persuaded to surrender their land rights to the British crown in exchange for foreign perishable goods. This process came easily. Treaties were often negotiated and signed within days because owning land was an incomprehensible concept in Indigenous culture.

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The Indian Act of 1876 further advanced the division and isolation of Indigenous peoples, depriving them of their culture, language, community and connection to the land (Indigenous Peoples Indigenous Voices, Backgrounder, 2010). Canada's first prime minister, Sir John A. Macdonald, blatantly stated:

The great aim of our legislation has been to do away with the tribal system and assimilate the Indian people in all respects with the other inhabitants of the Dominion as speedily as they are fit to change – 1887 (Joseph, B., 2016).

With this in mind the Canadian government, in conjunction with Anglican, Catholic, United, and Presbyterian churches, worked on systematically assimilating Indigenous peoples and their children into Canadian society (Crate, 2016). Children, 4 years old and older, were corralled into residential schools many hundreds of miles away from their families. In these sterile institutions, they were stripped of their Indigenous names, forbidden from speaking their native language and from practicing their culture. And to stamp out as much as possible of their Indigenous heritage, they were indoctrinated with Christianity (1000 Conversations, 2016). But even more horrifying were the medical and nutritional experiments the Canadian government approved on these children. 150,000 children boarded 130 federally administered residential schools between 1870 and 1996 (1000 Conversations, 2016). Thousands of accounts of abhorred living conditions, malnutrition, hunger, physical abuse and sexual exploitation have surfaced. The extent of the genocide may never be fully revealed. For example, an estimated 3,200 school children died from tuberculosis, malnutrition and other diseases. However, this is a gross underestimate of the real number of children who died because burial records were poorly kept (Mas, S., 2015).

In 2007, The Indian Residential Schools Settlement, one of the largest class action settlements in Canadian history, recognized and validated the abuse and damage inflicted on Indigenous children. In June 2008, the Prime Minister of Canada officially apologized in the House of Commons for the physical, sexual and other abuses that had taken place in Indian Residential Schools. The government also released 941,000 concealed records pertaining to the residential school system (Indigenous Peoples Indigenous Voices, Backgrounder, 2010). As part of the settlement agreement, a Truth and Reconciliation Commission (TRC) was formed, in 2008, to raise public awareness and *guide and inspire Aboriginal peoples and Canadians in a process of reconciliation and renewed relationships that are based on mutual understanding and respect*. The commission spent 5 years reviewing the 941,000 records, interviewing some 6,000 residential school survivors and holding national events to create a comprehensive historical record on the residential schools (Marshall, T., 2013). In an effort to heal the haunting residential school legacy and reconcile the past, the TRC created 94 Calls to Action directed to all levels of government, all educators, all health field workers and to all of the general public in Canada (Truth and Reconciliation Commission of Canada, 2015).

Ongoing colonization of the Indigenous communities living in Canada continues with the current legislative Indian Act of 1876. Further exacerbated by the 14 social health determinants (see Table 1) that weigh on Indigenous people's health. All 14 social determinants of health are associated with the Indigenous diabetic crisis (Lynn F. Lavallee, 2011). The mere status of being Indigenous is listed as one of the 14 social determinants.

Fourteen social determinants of health strongly influence the health of Canadians

- Indigenous status
- Gender
- Disability
- Housing
- Early life income and income distribution
- Education
- Race
- Employment and working conditions
- Social exclusion
- Food insecurity
- Social safety net
- Health services
- Unemployment
- Job security

Moreover, when compared to the rest of the population, Indigenous peoples living in Canada are disproportionately more burdened by social health determinants that address socioeconomic status, access to appropriate housing, clean water, basic sanitation, healthcare, and chronic disease management (UN, 2006). The lower the socioeconomic position, the greater propensity for disease. In a 2011 Canadian Health Survey, families with lower income were 4.14 more likely to develop T2DM than higher income families (Dinca-Panaitescu et al., 2011). Housing is especially significant, as it provides a platform for self-expression and identity (National Collaborating Centre for Indigenous Health, 2009). Indigenous peoples are four times more likely to be living in crowded housing than non-Indigenous Canadians (World Health Organization, 2016a).

The exploitation and industrialization of the land and water has cut off the healthy and sustainable relationship Indigenous communities once had with the environment (Indigenous Peoples Indigenous Voices, Backgrounder, 2010). A major contributor to diabetes is the increased consumption of a non-Indigenous diet made up of store bought high-carbohydrate and starch based foods versus the Traditional

high meat and berry diet (Jacqueline Reeds, Sudaba Mansuri, Mary Mamakeesick, et al., 2016) (Wesley-Esquimaux & Smolewski, 2000).

The fallout of social exclusion and cultural deprivation, results in increased and sustained levels of cortisol in the blood stream, a contributing factor of diabetes ("Indigenous peoples and diabetes; community empowerment and wellness," 2006). With cultural deprivation, the Indigenous "rites of passage" which help adolescents build self esteem and self-respect are lost. Adolescents instead turn seek high risk and sub-cultural activities (Gaudreau, J., White, A., McDonald, L., 2009).

Furthering the diabetes crisis are *the barriers to care, represented by fragmented healthcare, poor chronic disease management, high healthcare staff turnover and limited to non-existent surveillance of chronic disease* (Naqshbandi, Harris, Esler, & Antwi-Nsiah, 2008). Regarding the Declaration on the Rights of Indigenous Peoples the United Nations states in:

Article 24

1. Indigenous peoples have the right to their Traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services.
2. Indigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health. States shall take the necessary steps with a view to achieving progressively the full realization of this right.
("United Nations Declaration on the Rights of Indigenous Peoples," 2008)

The following initiatives have been developed over the last few years to address the T2DM crisis.

- Southern Ontario Aboriginal Diabetes Initiative-1997 (SOADI)
- TransFORmation of IndiGEnous PrimAry HEAlthcare Delivery-2013 (FORGE AHEAD)
- The Aboriginal Diabetes Initiative-1999 (ADI)
- Ontario's Aboriginal Diabetes Strategy-2006.

In this article we will focus on one of these initiatives. The Southern Ontario Aboriginal Diabetes Initiative (SOADI), a well-established organization that promotes *holistic wellness models* built on *Traditional teachings and best practices.* SOADI advocates for respect of personal choices, autonomy and diversity. Its vision is clear and simple: *Indigenous peoples have tools, knowledge and ability to make healthy choices and live free of diabetes, now and in future generations* (Southern Ontario Aboriginal Diabetes Initiative, 1997).

I had the privilege of meeting with the director, Roslynn Baird, and touring the facility. SOADI provides a centre for the integration of cultural values and Indigenous knowledge. The centre is more of a sanctuary that provides nourishment for the mind, body and spirit. It engages the local community in cultural and Traditional healing through a number of workshops where seasonal information is shared. For example each Friday SOADI welcomes people to engage in a cultural lifestyle event. Participants can choose to learn from Elders and Traditional healers through storytelling, humor, and hands-on activities in a caring and nurturing environment (Roslynn Baird, Executive Director, 2016).

According to Roslynn, diabetes is a result of intergenerational trauma and residential schools. And it perpetuated by environmental factors. Northern Ontario is starving for resources. There is a high prevalence of chronic T2DM. Amputations are rampant, largely due to the predominant episodic and responsive form of health care. Resources are urgently needed to support preventative health care and chronic disease management. SOADI does everything it can through outreach programs and mobile foot-care clinics. But the social determinants are a major obstacle. For example: living conditions are subpar. There is a predominance of inflated store bought foods high in carbs with little to no access to fresh produce. There is no access to clean water. The rivers are contaminated with mercury. Counseling residents on diet and exercise is futile when they have no access to clean water and nutritional foods (Roslynn Baird, Executive Director, 2016).

How do you de-colonize a nation of peoples? On a foundational level, it needs to start with restoration of their identity and a reconnection to cultural values and beliefs. There needs

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to be a lot more support for Traditional Healing. Education and training for healthcare providers and policy makers in cultural sensitivity and awareness is a prerequisite to offering aid and support. A number of Ontario universities such as Brock, OCAD, Queen's, Trent, U of Toronto, Wilfrid Laurier and York University have set up Indigenous departments and/or provide courses in Indigenous studies (Roslynn Baird, Executive Director, 2016).

Naturopathic doctors are in a unique position to engage and collaborate with the Indigenous community. They speak the same language in terms of health and disease. There is a strong parallel between the two medical philosophies. Both Indigenous and Naturopathic medicine recognize the interconnectedness of body, mind and spirit. Both systems focus on a whole systems approach to healing model, that empowers the individual's capacity to regain health, vitality and optimal function through natural treatments (Walji, Weeks, Cooley, & Seely, 2010). Indigenous treatment methods may differ from Naturopathic modalities in terms of tools and techniques but the fundamentals are the same. Perhaps the biggest difference between the two systems is within the depth and breadth of knowledge and experience. While Naturopathic medicine was developed just over a century ago, Indigenous medicine has been time-tested over 1000's of years. In fact naturopathic healing techniques, such as Echinacea for immune support, fasting, diet and herbal compounding, originate from Indigenous medicine (Hobbs, C., 1998).

Through its partnership with the Anishnawbe Health Toronto clinic, the Canadian College of Naturopathic Medicine has contributed to addressing some of the unmet needs of the Indigenous population (Walji et al., 2010). It is incumbent upon Naturopathic doctors, wanting to work with the Indigenous community, to become familiar with the history, the values and principles and needs of Indigenous peoples from the Indigenous perspective. There is an abundance of resources on the Internet. A good place to start is by learning about the TRC Calls to Action (http://www.trc.ca/websites/trcinstitution/File/2015/Findings/Calls_to_Action_English2.pdf). Of the 94 Calls to Action listed, there are 16 distinct Health Calls to Action (#18-24) for health workers and educators interested in improving healthcare.

The current T2DM epidemic evolved from a complex number of events subsequent to political economy and social stratification spanning a 300+ year history of colonial racism. It is the end stage metabolic outcome of a prolonged disconnection from culture, spirituality and identity. The name *Indigenous* stipulates connection to the land. For Indigenous peoples land is the embodiment of the creator's work. Hence it is highly sacred and inseparable from spirituality. Any harm to or exploitation of land directly hinders every aspect of their being. Reconnecting to the land will empower the population to strengthen their cultural, spiritual and Traditional bonds.

The T2DM is a state of emergency in the Indigenous community. The 3rd world health standards of Indigenous peoples living in a first world country are unacceptable and a significant impediment to healing. The Diabetes Charter for Canada stipulates that people with diabetes have the right to:

> *…information, education and care that takes into account a person's culture and language.* They have the right to high quality care regardless of where they live. *And governments have a responsibility to address the unique needs and disparities in care and outcomes of vulnerable populations who experience higher rates of diabetes and complications and/or significant barriers to diabetes care and support* (Canadian Diabetes Association, 2015).

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"Balance between families, communities and the natural environment is essential for survival and sustainability."

The Canadian government needs to act now to address the social determinants underpinning the epidemic (Toronto, & School of Health Policy and Management, 2010). Healthcare providers, who are interested in getting involved, would benefit from education and training in Indigenous culture and Traditional healing. They can also reach out to Indigenous organizations that are in need of resources and woman/manpower. The Indigenous people deserve recognition from Canadians for the intergenerational trauma and grief experienced as a result of the European occupation of North America. Efforts to empower the community to reconnect with its heritage may help it reconcile the years of chronic oppressive racism and social marginalization, and move towards a renewed sense of identity and spirit. A meaningful and effective approach to the treatment and prevention of T2DM can best result from collaboration and support directed from within the Indigenous community.

The Indigenous people are a peaceful nation that sees everything as interconnected. Balance between families, communities and the natural environment is essential for survival and sustainability. The principles that guide Indigenous politics, society and economy are in harmony with their traditions and beliefs.

This topic was an eye opener for me. I was unaware of the enormity and complexity of the Diabetic problem. There is so much history and intergenerational trauma that Canadians are just waking up to. We were certainly never taught any of it in school. It is a substantial piece of our legacy that has been, up until recently, concealed in the shadows. As a Naturopathic Doctor trained to look for the root cause of disease, it was necessary to explore the history for a better understanding. I found it emotionally painful to read through some of the records recounting the residential school trauma. Tears welled up in my eyes on numerous occasions. This article cannot possibly do it full justice. If anything I hope I was able to bring awareness on the subject and encourage the reader to further explore the issues and engage in the reconciliatory process. It is humbling to witness the strength and resilience of the Indigenous peoples. Their highly moral values and sense of community with no delineation between colour or race or any orientation is quite honorable and remarkable. I am grateful for the opportunity to share this information. As primary healthcare providers, we have a duty to educate ourselves and answer the TRC Calls for Action.

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We gratefully acknowledge the support and guidance of Roslynn Baird (Executive Director of the Southern Ontario Aboriginal Diabetes Initiative) in consulting on issues of cultural sensitivity and providing many of the images used in this article. Learn more about how SOADI supports Indigenous communities, families and individuals at their website: http://soadi.ca/

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