

**Converging Methods and Tools:  
A Métis Group Model Building Project on Tuberculosis.**

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University of Saskatchewan  
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By

Amanda M. LaVallee

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## **Abstract**

Indigenous (Métis, First Nation, and Inuit) peoples and communities in Canada, especially in the prairies, continue to experience disproportionate levels of tuberculosis (TB) compared to the rest of the Canadian born population. This inequitable distribution of TB disease burden demands effective policy, program, and practice responses. These have so far failed to materialize, perhaps in part because of limitations in the approaches we have taken to understanding the issue. As well, these responses have largely been grounded in western scientific paradigms. Science is the search and the re-search for knowledge and this varies according to the perspectives and paradigms of the researcher(s) and stakeholders. In this project, the student researcher collaborated with the Métis Nation-Saskatchewan (MN-S) and two volunteer health researchers to adapt and ground a western paradigm and methodology (System Dynamics and Group Model Building) to a Métis research paradigm to understand experiences of tuberculosis (TB) among Métis people. Data collection took place in a 2-day Métis-adapted group model building (GMB) workshop. The outcome is a causal loop diagram with associated stories co-created by the team and the workshop participants. The workshop was evaluated using a storytelling and story listening method that explored the appropriateness of adapting GMB within a Métis research context. The approach was determined to be successful methodologically, and substantively new knowledge was created in our Métis community about the determinants of TB. This research was a journey of diversity, working at the intersection of knowledge systems to produce a new understanding of a health issue as complex as TB.

## Acknowledgements

The writing of this dissertation has been one of the most significant academic and community based challenges I have ever had to face. Without the support, patience and guidance of the following people, this study would not have been completed. It is to them that I owe my deepest gratitude.

The MN-S Research Team - Tara Turner, Cheryl Troupe, Karen Yee, and Irini AbdelMallek, I am truly indebted to these wonderful, talented, intelligent, and dedicated women. I am touched and awed by the connections we had as a team, as researchers, and as women.

Dr. Sylvia Abonyi, I am privileged that you chose to be my supervisor. I am grateful that you are patient and understanding with outstanding listening skills, community research expertise, and strong family and community values that I respect and appreciate. I learned more from our weekly meetings at your office/house with tea, treats, and baking, than from much of my classroom educational training. I wish everyone had the opportunity to learn in the way I did. These meetings created a collaborative and inclusive environment for constructive dialogue around Métis and western research paradigms, methods, ethics, and tools; and how these can play out in the real world, in community, in a good way.

I would like to thank Dr. Peter Hovmand for being an outstanding co-supervisor, mentor, and friend. I am fortunate that you took the telephone call from me many years ago; an overwhelmed PHD student requesting if you would be my mentor. Your honesty, integrity, patience, knowledge has motivated and inspired me to be the best I can. Moreover, to my committee members, Dr. Jennifer Poudrier, Dr. Heather Ward, and Dr. Nathaniel Osgood. Your knowledge, experience, and educational backgrounds Medical Sociology, Medicine, TB control, and Computer Science helped me immensely in constructing an interdisciplinary approach to this study. To my external examiner Dr. Chris Andersen -Thank you for your thorough, brilliant, and inquisitive aptitude with, and in Métis research. Your contribution and dedication to Métis academic and community life is invaluable.

And lastly, to my husband Eric Paulsen, without whom this effort would have been worth nothing. Your love, support and constant patience have taught me so much about sacrifice, discipline, acceptance, and love.

## **Dedication**

I dedicate this dissertation to my husband and the many friends, family, colleagues, and Métis community members that have inspired my life through friendship, generosity, knowledge, wisdom, determined strength, and infinite love. You have all encouraged, assisted, advised, enlightened, and supported my research and writing efforts over the years.

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## List of Terms

**Aboriginal** - A term used in the Canadian Constitution Act of 1982 to identify all First Nations, Inuit, and Métis peoples (Department of Justice Canada, 2013). “Aboriginal” is infrequently used within this document, typically only used when quoting another person/author.

**First Nation(s)** - Usually refers to an Aboriginal population/nation politically autonomous under the Indian Act. However, this term is often used interchangeably to refer to an individual, a First Nation Band, many Bands, or a community (Brizinski, 1993). The term “First Nation” is seldom used within this document except when quoting another person/author.

**Indian** - A legal term used in the Canadian Constitution. This term typically refers to a person of Indian ancestry, a status Indian under the Indian Act, or a treaty Indian (Brizinski, 1993). The term “Indian” is seldom used within this document except when quoting another person/author.

- Status Indian - A person defined as an Indian under the Indian Act (Brizinski, 1993).
- Non-Status Indian - An individual who has lost status or is not registered with the Federal government, and/or is not registered to a band that signed a Treaty (Brizinski, 1993).
- Treaty – An agreement between the Crown and First Nations that defines the rights of First Nation Peoples relating to lands, resources, and self-government (Brizinski, 1993).
- Treaty Rights – Legal rights First Nation people have to lands and entitlements as a result of treaties. These rights are protected under section 35 of the Constitution Act, 1982 (Brizinski, 1993).

**Indigenous** - A term typically used to indicate ethnic groups that existed in a territory prior to colonization or development of a nation. Within this document I have used the term “Indigenous” in its broadest sense, to refer to all Indigenous inhabitants of Canada (Métis, First Nation, and Inuit).

**Inuit** - The people of the Canadian Arctic (Brizinski, 1993). The term “Inuit” is seldom used within this document, as the scope of the research is based on Métis peoples within Saskatchewan.

**Métis** - Individuals of mixed ancestry of, or descendants from, both European and Indian parents. Within this document I have chosen to use the definition of a Métis as outlined by the Métis Nation – Saskatchewan. The MN-S Constitutional definition of a Métis person is, “a

person who self-identifies as Métis, is distinct from other Aboriginal Peoples, is of historic Métis Nation ancestry, and is accepted by the Métis Nation” (Métis Nation-Saskatchewan, 1998, p. 9)

Please note that Aboriginal Peoples of Canada inherently have the right to choose how they identify regardless of the legal implications outlined within the Canadian Constitution. Identity is defined at multiple levels of individual, family, and community. Within this document I regularly use the word “Indigenous” (instead of “Aboriginal”) to refer to the First Peoples of Canada inclusive of Indian, Inuit, and Métis people. For greater clarity, however, where I refer to Métis people specifically, the term “Métis” is used.

## List of Acronyms

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>APS</b>	Aboriginal Peoples Survey
<b>BCG</b>	Bacille Calmette-Guérin
<b>BOT</b>	Behaviour Over Time
<b>DOT</b>	Directly Observed Therapy
<b>HIV</b>	Human Immunodeficiency Virus
<b>GMB</b>	Group Model Building
<b>LTBI</b>	Latent tuberculosis infection
<b>MIT</b>	Massachusetts Institute of Technology
<b>MMF</b>	Manitoba Métis Federation
<b>MN-S</b>	Métis Nation – Saskatchewan
<b>WHO</b>	World Health Organization
<b>RCAP</b>	Royal Commission on Aboriginal Peoples
<b>SD</b>	System Dynamics
<b>TB</b>	Tuberculosis
<b>TST</b>	Tuberculin Skin Test

## **Prelude**

### **Our Relations: Who We Are**

The underlying question throughout this research is: How can Métis and western science (system dynamics) work together to develop new and relevant answers to old questions about the disparities in health outcomes, such as tuberculosis, in Métis communities in Saskatchewan? Tuberculosis has been chosen as a gateway problem through which to understand the dynamics of health, wellness, and illness in our Métis communities. The reduction of the burden of disease through holistic intervention regarding the social determinants of health is a major present day concern for many Métis peoples. In this project, the student researcher collaborated with the Métis Nation – Saskatchewan Health Department (Dr. Tara Turner and Cheryl Troupe). As well, two individuals (Dr. Irini AbdelMallek and Karen Yee) with expertise in system dynamics and population health were invited to participate. We called ourselves the MN-S Research Team. As a team, we adapted and grounded a western paradigm and methodology (system dynamics and group model building) to a Métis research paradigm to understand experiences of tuberculosis (TB) among our Métis people in Saskatchewan. The group model building method applied in system dynamics thinking was used because it represented a methodological intersection between paradigms.

I have known each member of the MN-S Research Team professionally, academically, and/or personally within the community. I did not know the team would blend and work together as well as it did, as the individuals have very different educational backgrounds: Clinical Psychology, Native Studies, Social Work, Public Health, and Medicine. As well, our team comprises the diverse cultural backgrounds of Métis, Egyptian, and Chinese descent. Each team member has demonstrated a commitment within themselves and their community to enhance health promotion, education, and prevention practices and policies. They have expertise in their areas of work, research, and interest that has positively influenced this project.

### **Our Roots: Situating Ourselves**

This section of the thesis is intended to introduce, establish, and bridge the space between the academic institution and the community. By providing a relational platform within this dissertation, I will be weaving a story of who I am and the experiences that have shaped me as a person. I have also provided a space for the individuals involved in the research to introduce



themselves. Dr. Tara Turner, Cheryl Troupe, Karen Yee, and Dr. Irini AbdelMallek have provided brief narratives to offer glimpses into themselves, to provide a foundation and relational context for the reader. In community, with individuals, we would share this through talk, and provide stories of our family history, relatives, and the places we grew up.

**Amanda LaVallee, BSW, MSW.**

My full name is Amanda May LaVallee. I am a Métis woman, descendant of the Red River Métis, with Cree and French heritage. I also have some Scottish and Irish heritage from my mother's side. I was born and raised in Alberta and Saskatchewan in places such as Edmonton, Speers, North Battleford, and Saskatoon. Thus, I am culturally, spiritually, and physically influenced by the plains Cree and the Red River Métis within the prairie provinces of Canada: Alberta, Saskatchewan, and Manitoba.

I have one older brother (same father) and two older sisters (from a different father). Much of my memory as a young girl was growing up in the small village of Speers, Saskatchewan. We were a very poor family that existed on the knowledge and practices of my father and his family. Many of our daily activities depended upon our manual labour and time, such as tending to our garden during the summer months, canning in the fall, hunting (deer, rabbit, and prairie chickens), butchering and preparing animals to store and eat, picking berries and herbs, and cutting and stacking wood for our stove heater. My father would also perform mechanical work for farmers in the area in exchange for milk, eggs, pigs, chickens, and cows. My mother worked as a part-time librarian, since she had limited mobility as a result of a stroke at the age of twenty-eight. My older sisters would babysit neighbouring children to generate income in order to buy their school clothes and necessities. These early life experiences instilled in me a sense of life as arduous, to the extent that all of us children worked in some capacity towards sustaining ourselves and our family.

The greatest memories I had growing up were in the company of extended family and friends. Our activities were centered on connecting with our community and land. Each weekend and holiday we would drive across the Saskatchewan landscape to the scattered farmhouses and reserves to visit and spend a few days and nights in and with the community. As a group, children and adults collectively would attend to the daily chores such as berry picking, gathering

wild mushrooms, picking Seneca root<sup>1</sup>, cooking, gardening, hunting, trapping, hauling bales, milking cows, and building fences – depending on the season. Once we finished our daily chores and contributions, my brother, our dog, and I would explore and play on the land, farm, and reserve with the other children. I loved being on the land. We would explore in the woods, abandoned barns and farmhouses, fields, lakes, dug-outs, and sloughs. We would look for evidence of wildlife such as foxes, coyotes, rabbits, birds, wolves, skunks, and bears, mystified by our insignificance in the grandness of the land and earth. We would try to build forts high in the trees, and rafts to float on the waters; this would occupy our many days and nights. However, we would run home as fast as we could in the evenings, to be part of the adults involved in playing cards, fiddling, jigging, dancing, singing, storytelling, and story listening.

Although many of the memories I have shared thus far have been positive, there were many that involve sacrifice, despair, and pain as a result of alcoholism, sexual abuse, violence, and cultural shame. These I believe to be a result of colonization and assimilation. My childhood was shadowed by denial. I did not know I was Métis. I did not know that some of the activities we engaged in were part of our Métis culture and history. When my grandparents spoke their Michif<sup>2</sup> language, I was told they were speaking French. I did not know many of our relatives were ‘Indian’<sup>3</sup>. When I was called a ‘half breed’<sup>4</sup> I did not understand the word. I actually thought that because my grandparents lived in Hafford, Saskatchewan that ‘half-breed’ was a nickname for people from Hafford (now when I think of that I laugh). When we visited friends and family on a reserve I was told we were going to a farm. I was unaware, uninformed, and ambivalent about who I was and who I could be. As a family we were quite fair skinned and could ‘pass’ for being Euro-Canadian. I understand now that part of my understanding of my Métis ways of being, doing, and knowing has been influenced by internalized oppression. There was always a denial of being any part of ‘those’ Indian people. There was shame in our family if

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<sup>1</sup> When I was little we would help my grandmother pick Seneca root, berries, and mushrooms because she would sell them to make money. Seneca root was used in making cough drops and syrups (Sealey & Lussier, 1975).

<sup>2</sup> Michif language is rooted in a mixture of French nouns and Cree or Saulteaux verbs (Bakker & Barkwell, 2006).

<sup>3</sup> A term used in the Canadian Constitution to refer to individuals with Indian ancestry, a status Indian under the Indian Act, or a treaty Indian (Department of Justice Canada, 2013).

<sup>4</sup> Half-breed is an offensive term used for an individual with mixed racial descent; in Canada it refers to a person of First Nation and Euro-Canadian parentage (Sealy & Lussier, 1975).

anyone identified with our Métis culture and heritage. We told people we were French. We told people that our activities were French.

Even today, I continue to question myself and my Indigenous/Métis ways of being, doing, and knowing. I have thought, understood, and have been told in the past that I am not Indigenous enough and do not have entitlement to such knowledge because I am a fair skinned Métis woman that does not speak Michif. How do I embrace such knowledge when my family denied such ancestry and cultural ties existed? However, hidden under the familial shame, there was a way of life (being, doing, and knowing) that I learned by seeing and being in the moment throughout my childhood. It was not what my family said, but what we did. My father yelled quite often that we were French, and continually spewed racist remarks toward Indigenous peoples. However, contrary to what he said, every weekend we would be visiting family and friends on reserve, off reserve, Indigenous and Non-Indigenous. We attended elaborate house parties where we danced and jigged all day and all night to fiddle music. We engaged in activities such as dog sledding, hunting, trapping, collecting wood, picking and collecting medicines, and storytelling. I learned an intrinsic way of understanding relationships with people and with the land. I gained knowledge of my Métis ways of being, doing, and knowing, and how to create and maintain relationships through acts of reciprocity, respect, responsibility, and relevance. These guided me unconsciously through my younger years, and consciously through my adult years.

I have learned this knowledge indirectly through my familial ways of life and more directly from a community of Métis and Indigenous women that I sought out for guidance, direction, inclusion, and a sense of family. What I had learned initially through my family by seeing and doing when I was a young girl has been retold, retaught, and reinforced in me as an adult. I have been learning that my Métis worldview is a valid way of knowing and understanding the world. My Métis knowledge involves an awareness and intuition of connections with all parts of my being: body, mind, and spirit. This awareness helps me to create a space to hear my internal knowledge, allowing me to be in the present moment trusting myself to create intimate, connecting moments of learning and teaching, listening and talking, giving and receiving, with those around me. Within this space I honour relationships with all people and my environment – physically and spiritually.

**Dr. Tara Turner, PhD.**

My name is Tara Turner and I am a Métis health researcher with knowledge and experience engaging in Métis/Indigenous research for and with Indigenous/Métis peoples in Saskatchewan. I am a daughter, a sister, an aunt, a niece, a partner, and a mother of three young boys, two born in the middle of this research. My father's ancestry is English, First Nations, and possibly Inuit, as well as Scottish and Irish. My mother's ancestry is English, French, and Danish. As far back as the late 1700s, many people in my father's family worked for the Hudson's Bay Company, surveying, as middlemen, running forts, and building boats and buildings. I grew up in the Kootenay region of BC, riding horses and living a rural life that I still enjoy today. I moved to Saskatchewan for graduate school and I feel at home here, as my great-great-great-great-great-grandfather spent time here at Cumberland House, spent a winter in Ille-a-la-Crosse, and Turnor Lake is named after him. I have a PhD in clinical psychology from the University of Saskatchewan. The title of my PhD dissertation is *Re-Searching Métis Identity: My Métis Family Story*. My research explores Métis identity through the use of my Métis family story, including my father and his two sisters and two brothers.

**Cheryl Troupe, MA.**

My name is Cheryl Troupe and I am a Métis woman that has prioritized my professional career working with and within Métis communities. Over the past fifteen years I have worked with Métis communities in various capacities, as a curriculum developer, in arts and culture, community development, community-based research, and health. Much of this work has been spent with community members and Elders to learn and better understand Métis cultural protocols and ethics in conducting community-based research. Much of my research, both academic and professional, has focused on Métis communities in Saskatchewan, particularly the changing role of women in these communities. I have a Bachelor of Arts and a Master of Arts in Native Studies. My Master's thesis was entitled *Métis Women: Social Structure, Urbanization and Political Activism, 1850-1980*, and it focused on the role of women in traditional Métis communities and the influence of female kinship patterns and networks on the formation of Métis communities. Particularly, it focused on the early to mid-1900s as Métis communities became more urbanized and began to create an urban space for themselves and their families, working to organize social and political organizations. As a published author, I have received two 2003 Saskatchewan Book Awards in Publishing in Education, and the First Peoples

Publishing categories for *Expressing Ourselves: Métis Artistic Traditions* published by the Gabriel Dumont Institute, which focused on the efforts of Métis women in creating a distinct Métis material culture.

**Karen Yee, MSc MPH.**

My name is Karen Yee and I am a first generation Canadian-born woman of Chinese ancestry. I was born in a small rural town outside of Calgary, Alberta. My father sailed across the ocean at the very young age of 18 years with his brother to begin a new life in Canada when the land that his parents owned was taken away by the new communist regime in China in the late 1940s. My father worked hard to save money in order to bring his mother, bride, and her family to Canada. He married my mother in Alberta and moved to Calgary to provide a better life for his growing young family. Both of my parents have instilled in me the ethics of hard work, and the importance of education, honesty, integrity, and family. My inner being is largely based on the foundation of family values and I hold trust as a vital part of all relationships, both personally and professionally. I hold a deep love and respect for nature and spent 15 years working on various environmental and ecological projects after completing a Master's degree in Environmental Biology and Ecology (MSc). More recently, I completed a Master's degree in Public Health (MPH) specializing in epidemiology to redirect my career towards providing services for a healthy public and environment.

**Dr. Irimi AbdelMallek, MB, ChB, MD, MPH.**

My name is Dr. Irimi AbdelMallek and I was born and raised in Egypt, a land of culture, civilization, controversy, and diversity. Living in Egypt exposed me to diverse social, physical, spiritual, and cultural experiences that definitely enriched my personality as an individual, as well as shaping my philosophy in life. At a very young age I volunteered to help my community, where I was led by great mentors whose devotion to make positive changes influenced my decision to choose medicine as a career. I knew that becoming a general practitioner would be the best way to help my community improve and develop over time. I am a strong believer in the role of preventative medicine, as well as health education and promotion in building healthy communities. In that regard, I spent enormous efforts professionally and through volunteer activities helping my community. I hold a MPH from the University of Saskatchewan and have worked as a researcher in the public health field in Canada. As well, I have System Dynamics

training in the creation of models of infectious and chronic disease. My research areas of interest include, but are not limited to: Aboriginal Health, Women's Health, Immigrants' Health, Mental Health, Occupational Health, and Injury Prevention.

### **Métis Nation-Saskatchewan.**

The Métis Nation-Saskatchewan (MN-S) is a governing body that represents the approximately 80,000 Métis people in the province of Saskatchewan, Canada. The MN-S represents its citizens on political, social, and community issues. The president of the Métis Nation-Saskatchewan represents its citizens by holding a seat on the Board of Governors of the Métis National Council (Métis Nation of Saskatchewan, 2010). The MN-S Health Department focuses on providing advocacy to help improve the health and well-being of Métis people in Saskatchewan. The MN-S Health Department strives to make improvements in the health status of Saskatchewan Métis people through a coordinated set of plans and actions that focus on community and stakeholder engagement, collaborative action, relationship building, data collection, research, and advocacy that are grounded in Métis understandings of community health and well-being. The Health Department has twelve guiding principles (Métis Nation – Saskatchewan 2012):

1. Métis understandings of health and wellness
2. Ethical and respectful research and action
3. Historical impact on health and identity
4. Population health approach
5. Health equity
6. Community driven
7. Recognizing community capacities
8. Strength based
9. Recognizing community diversity and differences
10. Responsive to community needs

11. Working together

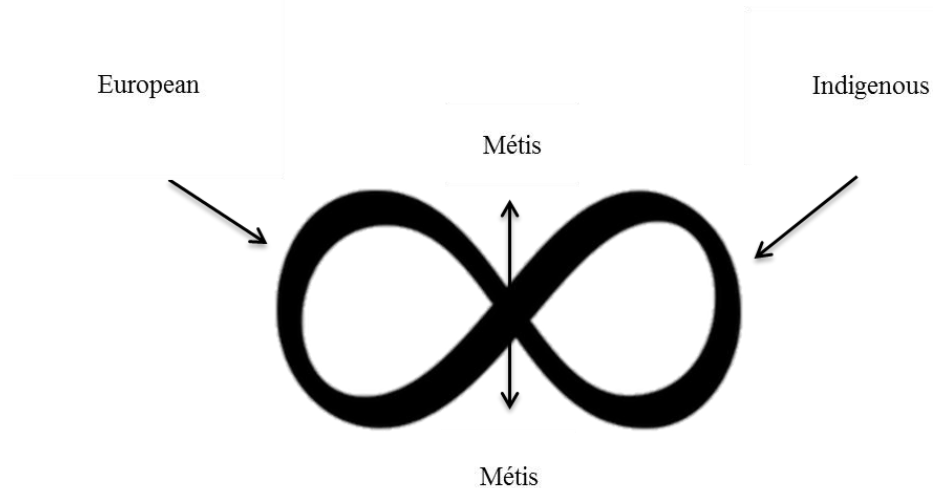
12. Evidence-based decisions

### **Our View: Multiple Frameworks**

As a Métis woman from a mixed background I have grown up in a community that has taught me the ‘best of both worlds’. I am the result of the blending of two worlds, two different ways of being, doing, and knowing, thus creating new mixed ways of being, doing, and knowing. Therefore, I use the Métis flag, specifically the infinity symbol, to further contextualize and understand this research project.

The Métis Flag is one of the oldest patriotic flags in Canada. The flag was first used by Métis resistance fighters in Canada prior to 1816. The flag is either blue or red with a white infinity symbol superimposed in the middle of it. The blue flag was originally used to associate the Métis employees that were French 'half-breeds' of the North West Company. The Hudson's Bay Company then created a red flag for their Métis employees that were Anglo-Métis, ‘country-born’. The flag served as a uniting symbol that ignited Métis nationalism. With the revival of Métis pride and consciousness the flag was brought back and remains a strong symbol of Métis heritage. For many Métis people that flag is a symbol of continuity, pride and independence (Racette, 1987).

The infinity symbol on the flag has two meanings. It signifies the joining of two separate cultures, Indigenous and European, to produce a distinctly new culture: the Métis (as seen in Figure 1). As well, the symbol means the creation of a new people forever (to infinity) and Métis practice and values will persevere. The infinity symbol has also emerged in the traditional dances of the Métis, such as the traditional quadrille where the dancers move in a figure eight pattern. (Racette, 1987)

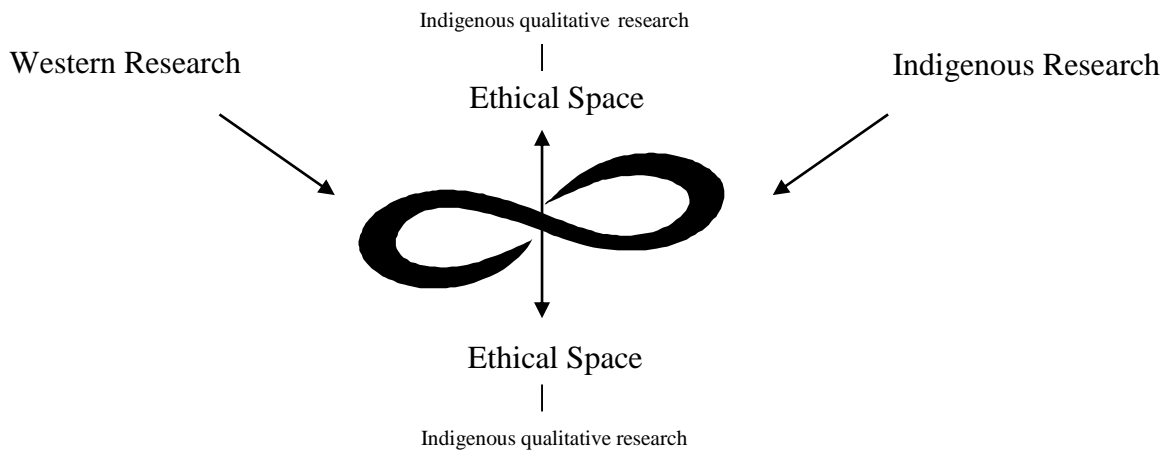


**Figure 1. Métis infinity symbol.**

*(Figure created by A. LaVallee using Microsoft Word)*

I acknowledge that my Métis ways of being, doing, and knowing within my community have been explored and grown in conjunction with my academic ways of being, doing, and knowing. Therefore, within this research I have used multiple research paradigms and methods (Métis and system dynamics) as a means to be true to how I am, who I am, and how I understand the world around me. These paradigms aided and informed how I gathered and understood this research process and topic, and how I understood, internalized, analyzed, and wrote about it. To make sense of my research framework I have used an infinity symbol. This symbol resonates for me as a Métis person because it speaks to my culture and allows me to understand, describe, and frame this research. The infinity symbol demonstrates a bridge between two worldviews – a middle ground between Indigenous and Western research and the union of the best of both worlds. The center of the infinity symbol represents a connection and an endless relationship fostered between nations and research paradigms. I began to comprehend the use of framing research questions, methods, ethics, and paradigms in my Masters research. It was during my Master’s education that I was able to amalgamate my Métis understanding of the world into my academic understanding of research. At the time I was able to frame my research by using the Métis infinity symbol seen in Figure 2.





**Figure 2. A union between two paradigms.**

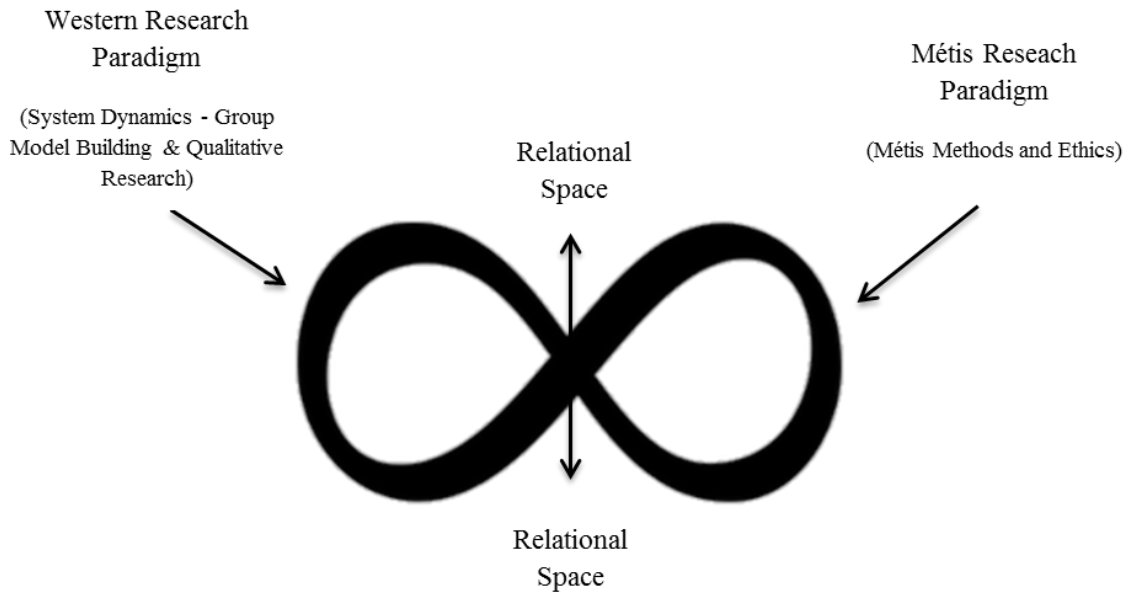
*(LaVallee, 2007)*

In my 2007 Master’s thesis entitled, “Graduate Indigenous Women: An Exploration of Strategies for Success and Well-Being in Graduate Studies”, I describe how I related to the infinity symbol within my research. The symbol helped me to feel less resistant to engaging in research. It allowed me to accept that blending cultures, paradigms, methods, and ethics was a good thing.

Just as it once was when western explorers and fur traders married Indigenous women who then helped them master the Canadian economy and terrain, engaging in Indigenous qualitative narrative research is like a marriage between western and Indigenous pedagogies, epistemologies, and paradigms...this Métis symbol united and infused the ideas of Indigenous and western research and formed a free flowing and ever-evolving space for thoughts and feelings, and a union of the best of both worlds. This union between Indigenous and western worldviews formed a reciprocal relationship based on mutual respect and equality. (p. 48)

I recognize that my ideas, thoughts, and experiences of myself, my culture, my community, and academia have evolved. I now understand the middle of the infinity symbol to

represent a relational and joining space for me. It is this middle ground that I walk throughout this lifetime and throughout this research journey, always negotiating and balancing my Indigenous and western ways. I am a bridge between two worldviews and research paradigms, western and Métis. I continually aid in creating this relational space as seen in Figure 3, where a relationship between two worlds converges, based on equality, transparency, trust, respect, reciprocity, relevance, and relationship.



**Figure 3. Relational space.**

*(Figure created by A. LaVallee using Microsoft Word)*

I have chosen a multiple framework approach within this research to inform both the academy and community that both paradigms together provide a powerful way to relate and understand Métis people’s experiences and understanding of tuberculosis. I have chosen a western qualitative research paradigm and methods to help support me in creating this research document, as I believe that it enhances my understanding of performing research in a ‘good way’: intently, creating a document that is credible, dependable, and understandable to a wide audience. As well, qualitative research has provided me with the analytical tools to code and theme the new knowledge gathered from this research. I value qualitative research criteria such as member checking, collaboration, self-reflection, and description. I also value system dynamics

– group model building as it is a method that supports a holistic understanding of problems with community members (Discussed in Chapter Four).

I believe that education and research is a two-way street, not a one-way experiment for Métis peoples to “fit” into the western academic ways of being, doing, and knowing. As a Métis woman, it is important for me to study western society and science (because it is part of who I am) but not at the expense of my Métis knowledge. Through the blending of my understandings gained from both Métis and western academic worlds, I hope that I represent within this dissertation ways to honour and value diverse ways of knowing. That being said, my journey within western academia as a Métis woman has not been an easy one. Below, I provide a brief glimpse with a (edited) journal entry I wrote in May 2009:

I walked into my Ph.D. classes everyday trying to speak and share my truth. I searched for knowledge that resonated within my being. I desired to have a relationship with the knowledge taught within my courses, as well build relationships with my classmates and colleagues. I wanted to share my inherent understanding of Métis health and well-being. I know there is more to understanding health of individuals, communities, and populations than 30 typed pages of Calibri (Body) 12 font writing. There is more than the written word and more than the written words I provided. I have a story. We have a story. I want community health and epidemiology to ‘fit’ within me and ‘fit’ within my Métis community. I want public, community, population health, health planning, evaluation, promotion, research epistemologies, and even causation, to be harmonious with Métis ways of being, doing and knowing (A. LaVallee, personal communications, May7th, 2009).

### **Our Culture: Who Are the Métis?**

The Constitution Act of 1982 S.35 identifies Aboriginal peoples of Canada to be Métis, Indian, and Inuit peoples (Department of Justice Canada, 2013). Aboriginal populations in Canada are not a homogeneous group; each Aboriginal population has unique cultures with different languages, traditions, and histories (Brizinski, 1993). As a Métis scholar living in Canada, I believe that understanding the diverse histories, cultures, and socio-demographics of Canada’s First Nations, Inuit, and Métis peoples is very important. I have provided a brief

contextual history of the Métis, with sources of additional historical and contemporary information on Canada's First Nations, Inuit, and Métis.<sup>5</sup>

The term Métis is a more current term used to describe individuals of mixed ancestry of, or descendants from, both European and Indian parents. The creation of the Métis people began when European traders arrived in Canada during the fifteenth and sixteenth centuries. To European explorers and fur traders, Canada (the name Canada was legally adopted in 1867) was seen as a 'New World' with a rich landscape endowed with an abundance of resources for trapping and trading animal furs. However, the environment and people were different from those of Europe. The traders relied on the Indian populations of Canada for their skills in surviving the climate and terrain. Alliances were formed in order to secure relationships between the producers of the furs, the Indian people, and the European buyers. Indian people adapted to the introduction of the fur trade economy and the fur traders adapted to the new environment to which they were exposed (Sealy & Lussier, 1975; Sprague & Frye, 1983).

Fur trade companies started to develop across Canada in the late 1600s due to the increasing demand for furs (beaver) that fashioned European wear. European traders concentrated their energies on creating relationships and alliances within the various tribes in Canada. This was done through the practice of 'à la façon du pays', or custom of the country. The unification was accomplished by marriage of Indian women with European men. These men were of mainly French, English, and Scottish heritage with Catholic or Protestant beliefs; and the women were typically First Nations and Inuit women (mainly Cree, Ojibwa, and Saukteaux). These marriages created a new race: the Half-Breeds, who later entered into the economic fur trade system of the Europeans. With the resulting expansion of the trading posts into the interior of Canada, generations brought greater interaction between Indians and Europeans; hence more Mixed Blood children were born. Historical literature uses numerous terms for this population, some quite derogatory, such as Bois-Brûlés, Mixed-bloods, Half-breeds, Flower Beadwork People, Country Born, black scots, and bungi (Sealy & Lussier, 1975; Sprague & Frye, 1983).

Mixed Blood children were exposed to both Catholic and Indigenous belief systems. They were a mix of European and Indian language and culture and were in an enviable position

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<sup>5</sup> More detailed explanation can be found online at The First Nations and Inuit Health Branch (FNIHB) of Health Canada, First Nations Métis and Inuit Online: Aboriginal Canada Portal, Métis National Council, Assembly of First Nations, and First Nations and Métis Relations - Government of Saskatchewan.

as they were both bilingual and bicultural. As the Mixed Blood population was established, more distinct communities separate from those of Indians and Europeans began to develop. As well, marriage among the Mixed Bloods resulted in a new Aboriginal population – the Métis people – with their own unique culture, traditions, language (Michif), way of life, collective consciousness, and nationhood. The Métis were skilled hunters, trappers, fishermen, harvesters of wild roots, berries, and plants, and proficient in sewing, beadwork, quillwork, and embroidery. They were raised to appreciate both Aboriginal and European cultures and they understood both societies and customs, which helped to bridge cultural gaps, resulting in better trading relationships. Métis communities were established in Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, and the Northwest Territories, primarily along major fur trade routes and waterways. The Métis played a vital role in the success of the western fur trade (Sealy & Lussier, 1975; Sprague & Frye, 1983).

### **Our Scene: Contextual Knowledge**

Métis peoples exist at the margins of the Canadian historical, cultural, and social settings and have been largely ignored as a distinct focus in the production of most health statistics or in health research. This is credited in part to the disparity in focus of grant agencies in funding Métis-specific health research as well as the lack of federal government responsibilities regarding Métis health and well-being. Given the paucity of research on Métis life and health, within the literature review, I have firstly included as much local Métis health research literature (within the prairie provinces of Canada) as possible, then extended the literature to include local, national, and international Indigenous initiatives in which Métis individuals were included. This dissertation also draws on literary works and narrative histories, stories, teachings, and ceremonies by Métis people that aid in a narrative insight into the topics explored here.

As a Métis woman and researcher living in Saskatchewan, my knowledge of a Métis research paradigm and methods has been acquired in a Saskatchewan context. However they are similar to and supported by an Indigenous research paradigm and methods based locally, nationally, and internationally. My Métis knowledge is used and incorporated in my everyday life as a Métis woman, and as a researcher. Nevertheless, it should not be assumed that my Métis knowledge is applicable to all situations. Different communities and Indigenous groups across Canada have their own sets of guidelines, customs, ethics, protocols, and rituals. Although a Métis research paradigm provides the framework for this study, it was the responsibility of the

student researcher to seek the guidance and support of the community that I worked with to ensure that cultural protocols are respected and followed.

### **Our Version: Language of Paper**

This dissertation is intended to be useful, readable, and accessible to a wide range of audiences, including community members, health care professionals, academics, researchers, and decision-makers. I have therefore consciously included aspects of a narrative style within the writing, occasionally relying upon the first-person voice to incorporate narrative. Kovach (2009) suggests that, “Using the first person honours the experience while engaging the abstract and theoretical” (p. 22). However, in order to honour all aspects of writing for a dissertation, the writing shifts to descriptive and investigative.

The research was designed to help build community capacity. One way I have tried to achieve this is by writing in a transparent fashion such that the community and audience at large have an opportunity to replicate this research process. Accessibility is essential for capacity, knowledge construction, knowledge translation, knowledge transformation, and knowledge utilization. Transparency implies open and clear communication with regards to all activities in the research, with and within the community. Transparency was maintained during knowledge collection, preparation, analysis, documentation, and dissemination phases of the research.

### **Our Research: Chapter Outlines**

In the following sections I provide a brief synopsis of each chapter within this dissertation. My intention is to provide the reader with the context, overall structure, and intention of this dissertation. The reader has the opportunity to become acquainted with the research before exploring each individual chapter, knowing what to expect.

#### **Chapter One: Introduction to the Research.**

Chapter one provides the reader with a foundational context for this research. Here, the reader can become familiar with the context of the study (framework), which explains concepts and theories that were used for this study. The framework helps to connect the theories I have chosen to use, to the research purpose, objective, assumptions, questions, literature review, methodology, knowledge collection, and analysis. As well, in chapter one I have outlined the purpose, objective, assumptions, questions, and significance of this research.

## **Chapter Two: Overview to Métis Health.**

The basis of this chapter is simply a glimpse into the historical influences that have shaped Métis health status, research, data, and information in Canada, and more specifically, Saskatchewan. In addition, it provides the reader with a general knowledge base regarding TB transmission, treatment, prevention, and education. I recognize the limits to this chapter as there is much more information, history, and context regarding Métis people's health and well-being in Saskatchewan, as well as factors that influence TB within a community, province, and nation. I am providing a narrow context and within this context I am hoping to provide a concise grounding that resonates throughout this dissertation.

## **Chapter Three: Theoretical Context (Literature Review).**

The conceptual context chapter provides an overview of relevant published and website material on Métis, Indigenous, and western health and research paradigms, including system dynamics, group model building (GMB), and the topic of tuberculosis in Métis communities. Much of the literature concentrates on Canadian Indigenous authors and more specifically authors located within the Prairie Provinces of Canada (Alberta, Saskatchewan, and Manitoba). This focus provides a local context for this study. Most literature on system dynamics and GMB was gathered from the North American context since there are few articles published in Canada regarding the utilization of GMB with and within Indigenous, and more specifically, Métis communities.

## **Chapter Four: Relational Roots (Methodology).**

I have started the methodology by providing a narrative of the events and processes I (we)<sup>6</sup> engaged in prior to undertaking any formal<sup>7</sup> research. This narrative outlines the steps taken to ensure community collaboration and transparent relationships with my community partner, the MN-S, and two volunteers. Next, I have outlined the knowledge collection procedures specifically relating to the two day GMB workshop. The reader can review the specific strategies used for participant recruitment, consent, workshop activities, and participant and MN-S Research Team evaluation processes.

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<sup>6</sup>We are inclusive of the MN-S Research Team.

<sup>7</sup>“Formal” means any activities that occurred before the ethics application approval by the University of Saskatchewan Behavioural Sciences Ethics Board.

Given the nature of the research and the extent of the knowledge collection procedures, I have created a section that clearly identifies the knowledge. To conclude the methodology section, I have discussed the knowledge analysis. This section outlines the methods used for coding, analysis, and storage. The process of organizing and thinking about knowledge took a considerable amount of time, as I wanted to honour the stories of the participants and research team.

### **Chapter Five: Converging Paradigms, Methods, Tools - Results.**

Chapter five is the first part of the research results and is divided into two sections: MN-S Research Team Evaluation of the Research, and Evaluation of the GMB workshop (participants and MN-S Research Team). With the use of thematic analysis, I have presented the results as themes and sub-themes, and, through honoring storytelling, I have written this chapter as a narrative, weaving quotes from the participants and MN-S Research Team.

### **Chapter Six: Métis TB Experiences - Results.**

Chapter six is the second part of the research results and is divided into three sections. First, I provide the TB causal loop diagram that was built during the GMB workshop and edited by participants and the MN-S Research Team weeks after. Then, within the next section, I provide the themed, significant stories that were focal points within the causal loop diagram, titled *Generational Stories of Trauma* and *Generational Stories of Culture and Tradition*. In discussing these two themes, I intertwined quotes from the participants as well as summarized participant's stories that help tell the group story of TB in Métis communities. I end chapter six with a composite story that speaks to the factors within the causal loop diagram that were created by the participant stories of TB. Therein, the composite story blends the voices of the participants, MN-S Research Team and student researcher into one story of TB grounded in Métis culture and history the of TB.

### **Chapter Seven: Discussion and Conclusion.**

In the last chapter I re-establish the intentions of the research, and restate my research questions and answer them. I highlight and discuss how this research has reinforced what is already known in the area of GMB, and what is innovative, such as using Métis research methods and tools alongside GMB. I provide clear links between the evidence obtained in the research and existing knowledge. As well, I offer recommendations to fill the gaps in our



understanding regarding Métis health research, more specifically GMB and TB. Finally, the dissertation concludes with closing remarks summarizing the successes, strengths, weakness, and importance of the research.

## Chapter One: Introduction to the Research

### 1.1 Research Context

An Indigenous researcher from New Mexico named Gregory Cajete was one of the first to unify Indigenous perspectives in science with a Western academic setting. Much of his research and teaching focuses on culturally based science, highlighting health and wellness (Cajete, 2000). Cajete (2000) states, “Native science is a product of a different creative journey and a different history than that of Western science” (p. 14). When I write about science<sup>8</sup> within this document I understand and use the word “...in terms of the most inclusive of its meanings, that is, as a story of the world and the practiced way of living it” (p. 14). One way to approach and understand health can be through an Indigenous lens using Indigenous science (Discussed in more detail in Chapter Three). From my Métis community I have learnt that Indigenous science encompasses a holistic paradigm of health that reflects the physical, spiritual, emotional, and mental dimensions of individuals and their interconnections. It is a science in which the social, economic, spiritual and political, are integrated and interpreted within the natural world. Many Indigenous peoples believe their health is connected to the land, to other people, to a community, and to one's culture (Cajete, 2000). Indigenous science is embedded in Indigenous knowledge, as such, for science you need knowledge and for knowledge you need science. Science is associated with knowledge, because it is a method of gathering knowledge to support the explanation and production of solutions to problems (Snively & Corsiglia, 2001).

Although there are many ways of understanding the natural world, western science has dominated knowledge discourse and is believed to be the superior way (Snively & Corsiglia, 2001). So, another way to understand health is by using a biomedical model of health that is rooted in Western science and that, up until recently, has dominated health care and health research. This approach is characterized by separating, studying, and treating diseases as individual elements existing in isolation from other diseases, based on their physiological, biological, social, cultural, and political contexts. Furthermore, an individual is separated from

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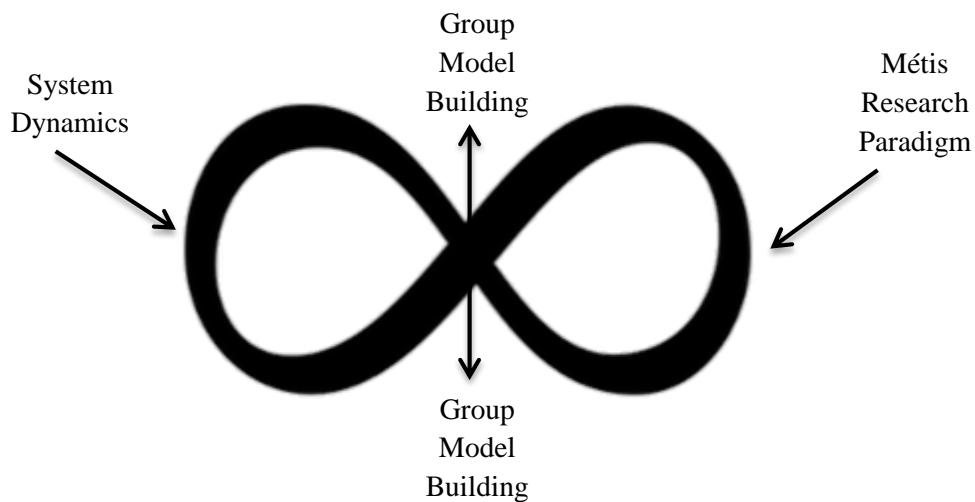
<sup>8</sup> The terms “knowledge” and “science” are often used interchangeably among many Indigenous people because Indigenous science refers to the entire system of Indigenous knowledge. Indigenous science encompasses all of the kinds of knowledge that are part of an Indigenous relational philosophy (Cajete, 2000).

his/her social network and community, and the treatment of their disease disconnected from their whole body (Shah, 2003).

What I am interested in is the space where Métis thought and science meet western thought and science. A heuristic understanding of problem solving suggests that it is about trial and error (Straus, 2002). One way of looking at and understanding health problems may be to locate Western science and its methods within a Métis paradigm, privileging a Métis paradigm while uniting western and Métis research tools and methods. System dynamics is a paradigm that looks at and works with problems in a holistic way that lends itself favorably to respectful integration into a Métis research paradigm and methodologies.

### 1.2 Research Purpose

The system of acquiring knowledge varies according to the perspective and paradigm of the researcher and stakeholder(s). A paradigm encompasses ways of being, doing, and knowing that guide us through our daily lives. In this project, we (the MN-S Research Team) adapted and grounded a western paradigm and methodology (system dynamics and group model building) to a Métis health and research paradigm to understand experiences of tuberculosis (TB) among our Métis people. The group model building method applied in system dynamics thinking was used because it represented a methodological intersection between paradigms. Figure 4 represents this intersection. In the context of this research, “methodological intersection” refers to the border between two or more methods.



**Figure 4. A methodological intersection.**

*(Figure created by A. LaVallee using Microsoft Word)*

Group model building is a participatory method that provides opportunities for inclusive discussions, storytelling and story listening, group learning, whole systems thinking, sharing of mental models, and insight into the factors that influence a systems problem. Knowledge collection took place in a 2-day Métis adapted group model building (GMB) workshop. The outcome is a causal loop diagram with associated stories co-created by the team and the workshop participants. The research process and workshop were evaluated using a storytelling and story listening method that explored the appropriateness of adapting GMB within a Métis research context.

### **1.3 Research Question(s)**

There are diverse ways of looking at the world and different aspects of knowledge are valued differently. A Métis research paradigm is one such perspective on the world. The aim of this research is to support the reflection of differing worldviews, not only to enhance Métis research and science but to aid in a two-way exchange of knowledge and cultural understanding. I (we) straddle the border between Métis and western health and research paradigms by essentially asking the question: How can Métis science and western science work together and innovate new and relevant answers to old questions about the disparities in health outcomes, such as tuberculosis, in Métis communities in Saskatchewan? From the questions posed above stem the following sub-questions:

1. How can a western research paradigm, system dynamics, applied through a western research method (GMB), work within a Métis health and research paradigm applied with Métis peoples?
2. What can we learn about experiences of TB in Métis communities using a blended Métis and western health and research paradigm to understand the issue?

### **1.4 Research Objectives**

1. To facilitate an intersection of Métis and western health and research paradigms to address Métis health issues of importance.

2. To apply the philosophical and methodological intersection to produce new understanding regarding TB in Saskatchewan Métis communities.

### **1.5 Research Assumption**

The underlying assumption driving this research is the belief that there is something good about exploring the blending of paradigms, methods, and tools to answer questions in a way that has not been done before.

### **1.6 Research Limitations**

This study is limited to a Saskatchewan Métis health context. Saskatchewan is a unique and diverse province with many Indigenous populations that vary in language, culture, and history. However, the premise of this research is to obtain a glimpse into Métis community social determinants of health that influence TB transmission, treatment, prevention, and education. I recognize the limits of this research as there are many more factors that influence TB within a community, province, and nation. I recognize the narrow context of this research because of its specificity to the local research community under study; however, I believe that it nevertheless illustrates the powerful utility of linking a Métis health research paradigm with system dynamics GMB on a health issue of importance, such as TB, for Métis communities at a national and international level.

### **1.7 Research Significance**

This study contributes to Métis health research in general and more specifically within Saskatchewan, as well as the wider group model building community, in the following ways:

- It addresses the gap in the literature on Métis health and research paradigms.
- It adds to a growing body of information and resources on blending Métis and western research paradigms and methods.
- It contributes to provincial and national Métis health research.
- It provides a local Métis health context.
- It addresses the gap in the literature on utilizing GMB with Métis peoples in Saskatchewan.

- It encourages the potential application of the GMB method to address health issues with Indigenous populations within Saskatchewan.
- It contributes to a body of information such as dialogue scripts to be used by other individuals.
- It adds to a developing body of evaluation research on GMB.
- It produces a Métis-specific understanding of TB.
- It contributes to the development of possible new population health interventions, policies, and programs by and for Métis peoples.

This research project explores new possibilities for creating spaces for Métis and western science to work together, incorporating paradigms and methods without the loss of cultural integrity. Accordingly, the framework and approach of this research is inherently unique and strong, paving the way for health researchers within the health sciences field to use a Métis research paradigm. Ultimately, it is my hope the new information revealed in this study will contribute to a growing body of knowledge that will help rectify Métis health disadvantages in Saskatchewan. As well, documenting the experiences of participants and the MN-S Research Team engaged in GMB will provide others working within the field with lessons learned. Moreover, it will further the body of knowledge concerning blending research methods, paradigms, and using the GMB method within a Métis health research context.

## Chapter Two: Overview to Métis Health

### 2.1 Colonization of Métis Peoples

Throughout Canadian history the Métis have been socially and economically marginalized. Therefore, to understand the present health context of Métis peoples of Canada we must take a look at the past. Given the extensive history of Métis people in Canada, I will provide a brief glimpse into a few historical periods that influenced Métis peoples individually and collectively. Consistently throughout history, the Métis have fought for their personal and collective rights. Dorion and Prefontaine (2001) state,

The dominant theme in Métis history is resistance against coercive power and to societal stereotypes....Métis resistance originated out of the desire to preserve the Métis culture, language, spiritual belief systems and economic activities against the neo-colonialist policies of Euro-North Americans. (p. 25)

Most notable would be the historical battles of resistance and policies implemented by the government that have infringed on the human rights of all Indigenous peoples and Métis peoples specifically. Political opposition, conflicts of culture, and battles of colonial resistance include the Battle of Seven Oaks (1816), the Red River Resistance (1869–1870), and the North-West Resistance (1885). Explicit policies of integration and assimilation such as the Indian Act<sup>9</sup>, the Enfranchisement Act<sup>10</sup>, the Manitoba Act of 1870, the Dominion Lands Act 1885, and

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<sup>9</sup> The Indian Act is a Canadian federal law that gives the federal government authority to legislate in relation to Indigenous peoples and lands reserved for them. As well, the Act defines who is “Indian” and who is not. Therefore the Indian Act governs in matters pertaining to registered Indians, their bands, and the reservation system. Throughout history, the Indian Act has been oppressive, invasive, and paternalistic (Brizinski, 1993). The Indian Act did not recognize Metis peoples as Indigenous peoples of Canada, therefore Metis peoples had no rights to land, health care, and education. Health care and education were only given if Metis individuals paid taxes (Barron, 1997).

<sup>10</sup> Enfranchisement (Gradual Civilization Act of 1857) was a legal process where First Nation peoples could give up their Indian status under the Indian act and have full Canadian citizenship. If a man with a family enfranchised, his wife and children would automatically be enfranchised. Enfranchisement became legally compulsory in the Indian Act of 1876 and First Nation peoples had to enfranchise to serve in the Canadian armed forces, get a university education, or leave their reserve for long periods of time (for employment). First Nation women lost their Indian status if they married a non-Indian man or if their First Nation husband died or abandoned them. As result many First Nations men and women who lost or renounced their Indian status would often identify as a Metis and/or non-status Indian if they could not “blend” in the Euro-Canadian society (Brizinski, 1993).

implicit genocidal policies such as residential schools<sup>11</sup> damaged Métis' collective and individual sense of worth, among other things. Colonial policies created a nation of peoples with no legal entitlement to land, personal rights, and identity. Colonization has left many Métis peoples of Canada mentally, spiritually, physically, emotionally, culturally, educationally, and economically scarred (Sealey & Lussier, 1975). After years of opposition the hope for freedom was lost among many Métis peoples. Sealy and Lussier (1975) state,

The mental state of the Métis was one of hopelessness, and a feeling that failure would be their lot no matter what efforts were expended. The history of the Métis taught that in conflict with Euro-Canadians they would find no success in negotiations, armed conflict, or retreat. In a sense, they were a people who had no future and were cheated of the present because the past was filled with pain, hunger, sorrow and despair. The present was thus haunted by the fearful obsession that the past might return. For many of them, the world was a cesspool of unemployment, social ostracism by Whites, spiritual and physical degradation, hunger, long term malnutrition, disease and squalor. (p. 145)

Euro-Canadian policies have been effective in pushing Métis peoples into the margins of Canadian society. Most notably, in 1870 the Canadian Parliament passed the Manitoba Act creating Canada's fifth province. The Act was the result of land negotiations between the Red River Métis peoples of Manitoba and the Canadian government, and at the time it seemed a great advancement for Métis peoples. It guaranteed that Métis residents who occupied the land prior to 1870 would retain ownership and provided for 1.4 million acres to be allotted for Métis land claims. However, shortly after the implementation of the Act, the Federal government began taking measures to extinguish Métis claims to the land. As a result, scrip was created: a special certificate issued by the Department of the Interior that entitled Métis individuals to receive

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<sup>11</sup> During the mid-1800s the Canadian government created a policy to assimilate Indigenous peoples into the dominant culture. First Nation, Inuit, and Métis children, some as young as four years old, were forced to attend government-funded and church-run residential schools. The primary role of these schools was to convert Indigenous children to Christianity and to civilize them (Brizinski, 1993). Many children were sent to schools thousands of kilometres away from their homes, and during their stay they were physically, mentally, and sexually abused. In many schools, children were forbidden from and sometimes punished for speaking their own languages or practicing their own beliefs. The last residential school closed in 1996 (Aboriginal Healing Foundation, 2006).



homestead lands, at a later date, upon presentation of the document to the proper authorities. The Government of Canada offered two types of scrip, money or land. Métis people could choose either 160 or 240 acres or dollars, depending on their age and status. To receive scrip, Métis people had to individually surrender their Aboriginal title to the land. Land grants were seen as an inexpensive way for the government to extinguish the Aboriginal title of the Métis to land. Scrip began in Manitoba and extended to Saskatchewan and Alberta and was implemented over several decades, from the 1870s to the 1940s (Dorion & Prefontaine, 2003).

There are multiple Métis experiences of scrip in Saskatchewan, and the southern and central regions of the province were impacted the most. Northern Saskatchewan was less impacted, as many of these communities continued to live a traditional lifestyle. However, close to the 19th century many Métis found themselves without land for numerous reasons. Regrettably, scrip was poorly administered; it was not until the late 1870s that Métis people began to get legal title of the land. At this time, many Métis were unclear of the purpose, process, and worth of scrip, due to lack of communication from the federal government. When speculators came to buy scrip from Métis families, it was often sold for a fraction of its value, and many Métis families were pressured to sell due to poverty. As well, these economic circumstances prevented Métis from reaching the commissions to apply for scrip. Because most Métis people were illiterate, the process of filling out unfamiliar forms in an unfamiliar language proved difficult. For that reason, it was not hard for someone who understood scrip to forge a claimant's signature by drawing an "X" on the signature line. Another contributing factor that led to the demise of Métis ownership to land was the government's refusal to protect scrip lands. Coinciding with European agricultural settlement in the prairie provinces of Canada, the loss of the Métis' land base in Western Canada led to their dispersal and marginalization. As such, dispossessed Métis squatted on unoccupied crown lands set aside by the federal government for the development of roads (Sealey & Lussier, 1975).

Known as the 'Road Allowance People', the Métis lived on land they did not even own. Scattered across Canada (mainly prairie provinces) were Métis settlements, often on the fringes of reserves and towns. This was often due to the location of road allowance, as well as the desire to live in close proximity to their extended First Nation and/or Euro-Canada families (Dorion & Prefontaine, 2003). These road allowance communities were often poverty stricken, with poor housing and individuals lacking educational opportunities afflicted with numerous health issues.

Métis people were often described by local officials as “a shiftless and disease-ridden group of paupers, often found squatting on road allowances in makeshift shacks” (Barron, 1997, p. 16).

In 1942, Sergeant Charles Carey of the RCMP reviewed the history of the Métis families located in the Crescent Lake area of Saskatchewan. He noted that many of the Métis children suffered from issues related to poverty such as malnutrition, insufficient clothing, illiteracy, had never attended school, and had diseases such as trachoma and TB (Barron, 1997). Even as late as the 1950s, poverty and living in substandard conditions remained common among those residing on the road allowance. Opportunities for employment were bleak, as racist perceptions prevented Métis peoples from securing permanent employment. Therefore, many Métis were employed in seasonal, unskilled labour, such as on farms, in lumber and pulp mills, picking berries and Seneca root, cutting and hauling wood, and fishing, hunting and trapping. If Métis individuals could, given their skin colour, they would deny their heritage and became assimilated into the Euro-Canadian mainstream in order to escape negative stereotypes and continuing economic hardship (Sealey & Lussier, 1975). Tactlessly, the Métis were not offered any federal assistance concerning their health, education, or even famine relief. The Métis needed the same assistance in education, health, and welfare as Treaty First Nations but were not served by the Federal government because they were not legally defined as Indians within the Indian Act. Consequently, the Métis existed as marginalized peoples living between the Euro-Canadian and First Nation cultural worlds. The federal government refused responsibility for Métis peoples, and the provincial government seemed almost in the dark regarding its legal responsibilities towards the Métis as citizens of Saskatchewan (Barron, 1997).

Until the 1940s, many Saskatchewan communities prevented Métis children from attending their schools because living on road allowance often meant their parents did not pay taxes as they were squatting on crown land. Discrimination was further enacted through the systematic exclusion of Métis children from public school as they were labeled a health risk. Barron (1997) notes,

It is a matter of public record that municipalities in Saskatchewan regularly refused membership to indigent Indians and Métis living within their borders because they would be a drain on the welfare funds. It is also true that Natives were systematically excluded from provincial schools on the grounds that they were dirty or unhealthy and therefore a health problem for other students. (p. 11)

Due to Saskatchewan's denial of its responsibility toward its Métis citizens, children attended residential schools, when permitted. These schools were for Treaty First Nations, Métis, and Inuit children and were funded by the Canadian government's Department of Indian Affairs, and administered by churches. The Canadian government believed residential schools were a valuable assimilating tool of Indigenous peoples into European-Canadian society. Métis children were only admitted into these schools if the Treaty First Nation attendance numbers were low; schools only received more financial support based on student enrolment. However, education at residential schools was substandard and usually only went up to grade 8. Children who attended them were deprived of their ancestral languages and customs, and often exposed to physical, emotional, and sexual abuse. Métis children often encountered discrimination from other children, teachers, priests, and nuns; their Michif language and customs were ridiculed. The stigma of being called half-breed, Native, Indian, rebel, or traitor and being discriminated against for having Indigenous ancestry forced many Métis to deny their identity. Residential schools created a generation of Métis individuals fearful and ashamed of their culture and language (Aboriginal Healing Foundation, 2006).

Despite many hardships, Métis People have persevered. For many years, in the absence of political structures, processes of respect, relationships, and reciprocity remained intact within Métis families and communities. The Métis were still able to develop a sense of nationhood, and a cultural reawakening began in the late 1960s when Métis-specific cultural programs, and political and educational organizations began to sprout up across the nation. These programs and organizations provided the impetus for Métis people to regain pride in themselves and reaffirm their culture, language, and history. In 1967, the Manitoba Métis Federation was established and provided the Métis with a cultural and political voice (Shore, 2001). Since 1982, following the recognition of Métis as Aboriginal Peoples in the Canadian Constitution Act, the Métis National Council was established and comprises of five provincial Métis organizations:

- Métis Nation British Columbia
- Métis Nation of Alberta
- Métis Nation—Saskatchewan
- Manitoba Métis Federation

- Métis Nation of Ontario.

The role of these political organizations is to advocate for the health and well-being of Métis peoples of Canada, and as such they campaign for Métis social, educational, cultural, economic, political, harvesting<sup>12</sup>, and land based rights and freedom. More specifically, they help to identify problems within Métis communities and for Métis peoples; establish an order of priority for solving these problems at a provincial and national level; develop awareness and understanding of the problems among local, provincial, and national governments, and organizations and citizens; gain funding and government action to resolve or improve the problems; and put pressure on governments to meet the needs of the Métis (Sealey & Lussier, 1975).

## **2.2 Métis Culture: From the Past to the Present**

There are many cultural traditions and practices of the Métis that still exist and thrive today: the Michif language, spirituality, ceremonies, fiddling, jigging, beading and embroidery, storytelling and listening, hunting and trapping, and picking traditional foods and medicine, to name a few. Since the reaffirmation of cultural pride and identity, those who choose to embrace their Métis culture celebrate and represent with joy. The Michif language is a composite language derived from French and Cree and has strong roots in the prairie provinces of Canada. In the past, the use of these languages was said to help foster relationships between the Métis, First Nations, and European fur traders. Today, Michif is fluent and spoken only by a small percentage of Métis peoples. However, Michif is currently being researched and preserved by Métis Nations, communities, Elders, and academics across Canada (Bakker & Barkwell, 2006).

Because Métis people have Indigenous and European ancestry, and the cultural orientations in Métis communities are diverse, it is difficult to separate a common Métis religion and spirituality. Some Métis follow more traditional Indigenous spiritualism, while others follow religions such as Roman Catholicism and Protestantism. Some even blend Christianity with Indigenous spirituality to suit their needs (Prefontaine, Paquin, & Young, 2003). The Métis people that connect to their Indigenous background may maintain connections with their spirituality, traditions and culture through participation in feasts, circles, powwows, sweat lodges, and social and political organizations. Some Roman Catholic Métis people tend to their

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<sup>12</sup> Harvesting is the term used for hunting, fishing, and trapping rights of the Metis.

spirit by going to Church weekly, as well as celebrating St. Joseph's Day and attending special events like the pilgrimage to St. Laurent de Grandin, Saskatchewan: a major religious event in the lives of many Métis in Saskatchewan and Alberta. Moreover, some individuals incorporate Métis-specific celebrations such as National Aboriginal Day, All Kings Day, Chivaree, John Arcand Fiddle Fest, Louis Riel Day, and Back to Batoche Days (Barkwell, 2006).

Many Métis traditions have been preserved, shared, and passed down through the generations. Although traditions may vary among families and communities, there are some common aspects across the nation such as the "Red River Jig", floral beadwork, and the sash. Dancing and music are intertwined in Métis culture and were and are currently a means by which people come together to maintain kinship and solidarity. A constant Métis traditional feature is jigging, dancing, and fiddle playing at balls, dances, and house parties. The unofficial Métis anthem is a fiddle tune called the "Red River Jig", a tune and dance that is widely known and central to Métis identity. It is believed the "Red River Jig" came from the fiddlers gathering at the forks of the Red and Assiniboine River and it has many different versions and step patterns (Whidden, Hourie, & Barkwell, 2006). Another important part of Métis culture was floral beadwork sewn on jackets, leggings, bags, gloves, moccasins, and vests. Historically the Métis were called the 'Flower Beadwork People' and today, many Métis individuals have learned traditional floral motif in bead, quill work, and embroidery. This Métis art form can be seen beautifying clothing and art (Troupe & Barkwell, 2006). Moreover, the sash is currently being worn as a symbol of pride and identification for the Métis people and their culture in Canada. The sash is a finger woven belt made of wool, approximately three metres long, and was traditionally used to tie at the waist to hold a coat closed or as a scarf or rope (Hourie & Barkwell, 2006).

Many Métis people have a strong relationship with all of nature, because it is believed that mother earth provides all sustenance such as food, water, and shelter (Acco, 2001). Some Métis people continue to fish, hunt, trap, and gather as traditional food continues to form part of their diet and helps to preserve their cultural ways. Therefore, sharing wild meat and gathered roots, herbs, and berries was and is a cultural value still commonplace in Métis communities. It is believed that traditional foods and related activities aid in building stronger ties to Métis culture and community. Some Métis individuals still hunt, trap, gather, prepare, and eat traditional foods such as moose, caribou, bear, deer and buffalo, game birds, small game like

rabbit and muskrat, berries, roots, and wild rice (Hourie, Carriere-Acco, Barkwell, & Dorion, 2006).

While today there is much more acceptance of and pride in Métis culture and customs, as well as less discrimination and racism towards Métis peoples, many still choose to integrate into Euro-Canadian society. Those individuals that possess light skin have the opportunity to conceal their cultural identity, and “fit in” or “pass” in Euro-Canadian culture. Fitting in allows many Métis people safety from discrimination, and thus more opportunities for economic, educational, social, and mental well-being. However, fitting in has led to the Métis being named “the invisible people” (Desmarais, 2013). Although it may be an underestimation of the Métis population in Canada, as many Métis will not self-identify, the most recent 2011 census statistics indicate that the 84.9% of people who identified themselves as Métis lived in either Ontario or the western provinces of Canada. The largest Métis population in Canada was in Alberta (96,865) representing 21.4% of all Métis. The next largest was in Ontario (86,015), which represents 19.0%. This was followed by 78,830 Métis in Manitoba at 17.4%; 69,475 in British Columbia at 15.4%; and 52,450 Métis in Saskatchewan, or 11.6% of all Métis in Canada (Minister of Industry, 2013).

### **2.3 Métis Health Status and Health Research**

Due to the federal responsibility and involvement in registered First Nations and Inuit health, First Nations Indian Health (FNIH) has collected population health data and information for many years. Initial attempts at data collection regarding Indigenous peoples began as early as the 1600s. Comprehensive data collection started in the late 1950s and early 1960s as part of federal programs of service delivery within registered First Nation and Inuit communities (Saku, 1999). Contrary to registered individuals, FNIH does not have a mandate to work with Métis individuals and communities. Primary care and public health of Métis people is delivered by the provincial/territorial governments. Métis peoples are grouped into the general population for health statistics purposes. As a result, there is a lack of information and data on Métis health demographics, status, and social determinants (Anderson & Smylie, 2009). All provinces maintain health information databases including vital statistics, physician billing systems, hospital administrative databases, notifiable diseases, chronic diseases, cancer registries, and public health surveillance. Health related administrative data is collected every time an individual accesses services by health service providers, such as physician and hospital visits and

pharmaceutical prescriptions. Although health data is stored, it does not have ethnic identifiers. Jurisdictional barriers, in terms of responsibility for Métis health, complicate the collection and analysis of Métis-specific health data. Underlying factors that contribute to the paucity of data on Métis health include (not an exhaustive list<sup>13</sup>):

- Absence of a Métis registry or list (in most of the provinces)
- Issues of Métis identity (who identifies, how they identify)
- Lack of defined Métis communities
- Poor data linkages between various databases
- Under-enumeration of Métis in provincial Métis registries
- Restricted access to data
- Inadequate analysis and dissemination
- No Métis-specific population health framework and set of indicators

Even though Métis people comprise over thirty per cent of the total Aboriginal population in Canada, there is a clear and troubling underrepresentation of Métis-related research in the literature. Significant progress is required to learn about the health of our Métis populations in Canada. Evans et al. (2012) have captured four related, practical barriers to Métis community's health research: firstly, a lack of Métis-specific health care centers; secondly, limited human resources; thirdly, reliance upon volunteers, which does not promote capacity building within Métis organizations; and fourthly, political instability, which prevents long-term strategic planning and goal setting. Due to the challenges associated with obtaining appropriate and adequate health data indicators, we do not have a true picture of population health and well-being of the Métis in Saskatchewan. Accurate, adequate, and available research data on the health of our Métis population is needed to understand the health status and the disparities.

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<sup>13</sup> List of reasons is referenced from the National Collaborating Centre for Aboriginal Health (2011) and the Métis Nation Council (2004).

Métis communities rarely have their own health centres. They are often forced to fit their health needs and circumstances into those of adjacent, non-Métis communities. Even then, geographical and jurisdictional barriers often limit access to health care for Métis people. For example, even though a range of health care services might be offered in a nearby reserve community, federal funding arrangements for service delivery on-reserve is restricted to people with legal status under the Indian Act. Generally Métis people receive health care supports and services from non-Aboriginal health care providers. Community health directors are often important in the formation of research partnerships between First Nation reserve communities and university researchers; their designated role is as research overseer, who improves project communication and coordination. Unfortunately, the Métis are rarely in a position to fill this role, specifically at the community level. Provincial and national Métis organizations are generally better equipped to participate in research partnerships. Large and small-scale urban Métis organizations also have human resources available. However, the Métis are under-resourced at all levels of organization, and lag far behind the resources of similarly positioned First Nations organizations.

Research in Métis communities and organizations relies largely on community volunteers. These individuals typically have full time employment elsewhere and undertake this work on an ‘after-hours’ basis. Commonly, community members lack the background in health care required by the research initiative, and are also unlikely to receive the required training. Additionally, Métis communities often lack the meeting and office space necessary for research meetings, the employment of community researchers, and the storage of data (all identified as central components to successful research projects). Moreover, political instability at local, provincial, and national levels is another deterrent for potential Métis community researchers. Generally the political structures of the Métis community have little or no legal supports, and rely on short term and constantly renegotiated agreements with provincial and federal governments. All of these barriers combined may deter many university-based researchers from studying Métis communities and also create obstacles in securing the kind of evidence-based information that government funding grants require. As well, the perceived threat of disruption to data collection by instability within the community or organization can often dissuade researchers from approaching Métis communities for research partnerships.



The current major, national Métis population health data sources are the Aboriginal Peoples Surveys (APS) of 2006, which was the first time the APS had a Métis supplement. As well, the basic census data available from 1991, 1996, and 2001 provide a snapshot of the health and wellness of Métis people in Canada. Additionally, there are a few Métis-specific studies that highlight Métis health in Canada: the Health Statistics Division Report (2013), Métis Nation of Ontario Health and Wellness Branch (2012), Manitoba Métis Federation (2011), Tjepkema, Wilkins, Sénécal, Guimond, & Pernet (2011), Métis Nation – Saskatchewan Health Statistics Report (2010), and Bourassa (2008).

The Aboriginal Peoples' Survey – Métis Supplement provides a small overview of the health of Métis people in Canada and in the provinces. Métis people have better health than First Nations people but are still at risk compared to the non-Indigenous population. The Métis have higher rates of chronic conditions than the total population of Canada. The most commonly reported chronic condition among Métis adults was arthritis and/or rheumatism (21%), higher than the 13% in the total population of Canada. High blood pressure was the second most common condition (16% in Métis adults as compared to 12% in the total population). Almost double the percentage of Métis adults reported asthma (14%) and diabetes (7%) as compared with the total population (8% and 4% respectively). The most commonly reported chronic condition among Métis youth aged 15 to 19 was asthma (20%), almost double the percentage found among the same age group in the total population of Canada (11%). The statistics in Saskatchewan mirror the national statistics (Statistics Canada, 2009).

However, Métis people are concerned with how they have been defined and enumerated in the census and the APS (Smylie & Anderson, 2006). Only 20% of the administered census forms asked individuals to identify as Métis. This results in low response rates, so much so that data is often not allowed to be released due to privacy concerns. Another concern is that the APS is carried out every five years and is representative of a small percentage of the Métis population. These limitations are continued due to the sampling frame used in the two surveys. Nonetheless, it is possible to gain data, albeit somewhat limited on the Métis population from the APS (Smylie & Anderson, 2006).

In January 2013, the Health Statistics Division released a report titled, *Health at a Glance: Select health indicators of First Nations people living off reserve, Métis and Inuit*. This article indicates that First Nations people living off reserve, Métis, and Inuit have poorer health

compared with non-Indigenous people in Canada. With the use of the Canadian Community Health Survey (CCHS) data from 2007 to 2010, the Health Statistics Division evaluated and compared health data for First Nations people, Métis, and Inuit with the non-Indigenous population in a number of areas. This document provides statistical evidence that:

- First Nations and Métis people were more likely to report higher rates of chronic conditions than the non-Indigenous population.
- First Nations, Inuit, and Métis smoking rates were over two times higher than for the non-Indigenous population and members of groups were twice as likely to be exposed to second-hand smoke in the home.
- Higher obesity rates: First Nations people—26%; Inuit—26%; and Métis—22%; compared to 16% for non-Indigenous adults.
- Métis people were more likely to experience household food insecurity than the non-Indigenous population: First Nations people—22%; Inuit—27%; and Métis—15%; compared to 7% for non-Aboriginal adults (Statistics Canada, 2013).

The Métis Nation Ontario's Chronic Disease Surveillance Project has conducted Métis population health research over the past 5 years using data from 2006 to 2009. The surveillance focused on the areas of heart disease, diabetes, respiratory disease, and cancer. Most of the findings confirm that the rates of the diseases under surveillance were higher among Métis people than among the rest of the population of Ontario. The project findings conclude that the rates for risk factors for chronic conditions (like smoking) were also higher among Métis people as compared to the rest of the province. Of note was that the rate of acute coronary syndrome was 75% higher while prevalence of diabetes was 25% higher among Métis people than for the rest of the population. Some of the positive findings in the report suggest that Métis seniors with diabetes are more likely to test their blood sugar levels than other seniors, the overall incidence of cancer was lower among Métis people, and there was no evident pattern of unequal care (except if analysed based on location) (Métis Nation of Ontario, 2012).

In 2011, a collaborative effort between the Manitoba Centre for Health Policy, Manitoba Métis Federation (MMF), Department of Community Health Sciences, Faculty of Medicine, and

University of Manitoba released an extensive research document titled, *Profile of Métis Health Status and Healthcare Utilization in Manitoba: A Population-Based Study*. The research indicates that Métis people in Manitoba are 21% more likely to die before the age of 75 as compared to the rest of the population in the province. Their research also revealed the extent of chronic conditions faced by the Métis, which includes arthritis at 24.2%, heart disease at 12.2%, and diabetes at 11.8%. When considering mental illness, Métis peoples have a similar rate of depression as the general population in Manitoba, but a significantly higher rate of anxiety. Additionally, the report found that Métis peoples in Manitoba had statistically higher rates of substance abuse, personality disorders, and dementia (Martens et al., 2011).

A study conducted by Tjepkema et al. (2011) using census data from 1991 – 2001 showed that premature mortality (death under the age of 75), measured in potential years of life lost (number of years left until age 75, measured as a loss to society due to early death), was double in the Métis population than among non-Indigenous Canadians. Looking further, 71% of deaths in the Métis population occurred between the ages of 25-74, compared to 48% of deaths in the non-Indigenous population. A direct comparison between non-status Indigenous peoples and Métis peoples was not explored. The study did examine the impacts of geographic and socioeconomic differences between the Métis and the non-Indigenous population.

Geographically, seven of ten Métis peoples were residents of Manitoba, Saskatchewan, or Alberta. Additionally, results show that Métis peoples generally tend to be younger in age; are less likely to have completed secondary school, to be legally married, employed, or to own a home; and are more likely to live in crowded conditions, in a home requiring major repairs, and to be situated within the two lowest income groups in Canada. Injuries accounted for a significantly higher percentage of potential years of life lost in the Métis population, along with drug and alcohol related conditions. More specifically, Métis men had higher rates of hypertensive heart disease, rheumatic heart disease, and unintentional injuries and violence. Along with hypertensive heart disease and unintentional injuries, Métis women experienced higher percentages of respiratory infections, alcohol use disorders, chronic obstructive pulmonary disease (COPD), and cirrhosis of the liver (Tjepkema et al., 2011).

The Métis Nation – Saskatchewan conducted a Community Based Participatory Research Project (MN-S Health Survey) in 2009. This project was a collaboration between the MN-S, the Department of Academic Family Medicine at the University of Saskatchewan, and the First

Nations University of Canada. This community-based, participatory action research that engaged community members as researchers used a mixed methods approach utilizing both quantitative and qualitative questions to capture the health status of Métis people in Saskatchewan. The researchers measured demographic indicators, socio-economic levels, health status indicators (self-rated health status, hypertension, diabetes, cancer, circulation problems, and heart problems), diet and exercise levels, tobacco, alcohol and drug misuse, and access to primary care. The survey revealed that 33.9% of Saskatchewan Métis have high blood pressure, 19.8% have high cholesterol, 15.7% have diabetes, and 10.6% have heart disease. The qualitative component asked specific questions regarding the activities and events that helped and hindered the participants and their communities in remaining healthy and secure. This research project provided essential baseline information and understanding of the health and well-being of Métis peoples of Saskatchewan (Ramsden et al., 2010).

A dissertation by Bourassa (2008) argues the need to shift research foci, so that Métis peoples are examined as a distinct group, rather than as a component of a larger Indigenous group. Utilizing data from the 2001 Census, the 2001 Aboriginal Peoples Survey, and the Canadian Community Health Survey Cycle 2.2 (2004), Bourassa (2008) found significant economic and health differences between Métis and non-Indigenous peoples within Canada. The study reveals that Métis people have lower total average incomes and wages than non-Indigenous people. Métis people who fall below the low-income cut-off is 30.7% compared to only 16.4% for non-Indigenous people. Bourassa (2008) also found that 5.1% of Métis people self-rated their health as "poor", while only 2.5% of non-Indigenous people did so. Finally, more Métis people rated their health in the "poor" and "fair" categories (16%) than non-Indigenous people (11.2%). The main aim of this study was to highlight the impact of colonization and the interaction of history and socioeconomic factors on the current health status of Métis people in Canada. Moreover, it helped to close the Métis health data gap, as there is a paucity of Métis-specific socio-economic and health data available to Métis people, communities, and organizations.

All of the current research in Métis health points to some grave health disparities that need to be explored and addressed. These studies show the importance of exploring Métis health with a focus on the social determinants of health, which is an approach observed in this study. The determinants of health and the distinct colonization experience place Métis people in an

unfavourable position in terms of their health status and lead to increased rates of chronic conditions and decreased life expectancy. The continued lack of data, research, and knowledge translation will have a further negative impact on the health status of Métis people.

Métis people have been constitutionally recognized as one of Canada's Aboriginal peoples as a result of their unique colonization history. However, the Federal government has failed to acknowledge any fiduciary responsibility towards Métis people, causing a gap in the funding for health, education, and social programs specifically geared towards Métis people. On January 8<sup>th</sup>, 2013, the Federal Court of Canada ruled in favour of plaintiffs Harry Daniels, Gabriel Daniels, Leah Gardner, Terry Joudrey, and the Congress of Aboriginal Peoples. This was a huge victory, as it was a long, 13-year battle with the Canadian government to declare Métis and non-status Indians as "Indians" under the Constitution Act, 1867 (Daniels et al., 2013). The Daniels decision means that thousands of Métis and non-status Indians will be considered "Indians" under section 91(24) of the Constitution Act. This recent Federal court ruling recognizing Métis people as "Indian" in the legal sense may pave the way towards more programs and research that is Métis-specific. This future will entail further appeals and negotiations, but the door has been opened.

## **2.4 Tuberculosis and Métis Peoples**

For this research study, tuberculosis (TB) has been chosen as a gateway issue through which to understand the dynamics of health, wellness, and illness in Saskatchewan Métis communities. TB is an insidious and infectious disease with long, latent periods and unpredictable reoccurrences. TB is caused by the bacteria *Mycobacterium tuberculosis* and is currently the world's second most common cause of death from a curable infectious disease (World Health Organization, 2013). TB is often classified as pulmonary (occurring in the lungs) or extrapulmonary (occurring elsewhere in the body). The most frequent cases of TB disease are pulmonary, but it can also affect other parts of the body, including the lymph nodes, kidneys, urinary tract, bones, and other organs (Public Health Agency of Canada, 2013).

The natural history of TB consists of two stages, namely inactive or latent infection, and active disease. People can be infected by the TB bacteria but show no symptoms; this stage is called inactive or latent tuberculosis infection (LTBI). LTBI occurs because a person's immune system fights off the TB bacteria and puts the TB bacteria into hibernation. As long as the infected individual's immune system is strong the infection will remain latent or in hibernation.

TB bacteria usually remain latent within an individual for a lifetime without progression to disease, with 90 to 95% of individuals with TB infection never developing active TB (Public Health Agency of Canada, 2013).

Active TB is when symptoms occur and *M. tuberculosis* can be cultured, most commonly from the lungs. Early symptoms include cough for more than a month, unexplained fever for more than a week, or pneumonia that does not respond to antibiotics. Late symptoms, when the disease is advanced and can be spread to others by coughing, include weight loss, loss of energy, poor appetite, a persistent productive cough, fever, and night sweats (Public Health Agency of Canada, 2013).

An individual with TB infection alone does not transmit *Mycobacterium tuberculosis*. A person with active TB can spread the bacteria. If an individual with active pulmonary TB coughs, droplets containing the TB bacteria are dispersed into the air. Consequently, the bacteria may be inhaled by all individuals near the infected person. Family members of an infected person are at risk if the person continues to live in the same household without proper treatment. Because symptoms of active TB are sometimes not recognized, medical care is not sought, or in some parts of the world treatment is not available, advanced TB disease results and transmission occurs, continuing the cycle of the disease. And if TB disease is left untreated, an individual can die (Public Health Agency of Canada, 2013).

Anyone can get TB infection simply by breathing in the TB bacteria, yet certain factors can increase the risk of the disease. Sir William Osler, a famous Canadian physician, called TB a “social disease with a medical aspect” (p. 427) because worldwide TB follows poverty more closely than any other disease (Grzybowski & Allen, 1999). An individual’s socioeconomic status, including living in overcrowded conditions, or poverty, can be linked to an increased risk of contracting TB. However, there are numerous other factors that also increase the threat of contracting TB, such as a compromised immune system as a result of old age, malnutrition, addictions, and some chronic diseases. Children in communities where TB is present are also at increased risk of developing TB. Moreover, screening is often recommended for certain populations because of their increased risk of TB. These include Indigenous reserve communities with high rates of TB or LTBI, front line staff and residents of long-term care and correctional facilities, healthcare workers, as well as individuals from countries with high TB rates and

immigrants. Still, research indicates that the strongest known risk factor for developing TB is the presence of HIV (Public Health Agency of Canada, 2013).

Individuals suspected of being infected with TB must go to a healthcare facility (mobile or community clinics) for an examination. Testing for TB involves laboratory tests such as blood tests and a phlegm (sputum) examination, and a positive laboratory culture is evidence of active TB bacteria. A strategic component of TB control is the tuberculin skin test (TST). A positive TST may provide evidence of LTBI. A TST is performed by injecting tuberculin testing material under the skin, on the underside of the forearm. If an individual is infected they will typically develop a reaction within 48-72 hours. This reaction is typically a raised bump at the site of injection that is >5-10 millimeters in diameter. A raised bump can indicate that an individual has been infected with TB bacteria; previously had TB and has been cured (successfully treated); has been immunized for TB with the Bacille Calmette-Guérin (BCG) vaccine; or currently has TB. If an individual's skin test is positive, further testing, usually a chest x-ray and possibly samples of sputum, are taken to exclude active TB (Public Health Agency of Canada, 2013).

Active TB disease is treatable with antibiotics. Several antibiotics at the same time are required to ensure that the bacteria will not develop resistance to the drug. Treatment is long, 6 to 9 months, to ensure that all of the TB bacteria are gone and the disease will not come back. Treatment is daily for the first 2 to 4 weeks, then twice weekly for either 6 or 9 months. Treatment now is often in a person's home community and rarely in hospital. Treating active TB is essential in controlling and eliminating TB in Canada, as this stops transmission of TB. LTBI is also sometimes treated. Because the majority of individuals with TB infection will never develop active TB, only those at highest risk of progressing from infection to disease are provided with treatment for LTBI. In Saskatchewan, this includes those with HIV; individuals on strong immunosuppressive medications, such as an organ transplant recipients; children under the age of 16; and individuals recently in contact with a known infectious case of TB (Public Health Agency of Canada, 2013).

The biggest danger in TB treatment is that an individual with active TB will not take their antibiotics as recommended. If the medication is not taken, those with active TB may continue to transmit TB and will also become progressively more ill. A further consequence of deviation from the treatment plan is the development of resistance to the antibiotics in those with active TB. This form of TB is much more difficult to cure (Public Health Agency of Canada, 2013).

Therefore, in Saskatchewan, as in many areas worldwide, the core of treatment of active TB is Directly Observed Therapy (DOT). This therapy consists of the delivery of every scheduled dose of TB medication by a community health care worker for 6-9 months, or more depending on the recommended therapy. A health care worker observes and documents the patient's ingestion of the TB medication. Treatment can create some difficulties for individuals and their healthcare professionals because management requires persistence and patience for both patient and worker. The side effects of the medications, and the inconvenience of taking the regimens for long periods of time, are the main deterrents to completion of DOT. A successful TB treatment therefore depends on a close relationship based on mutual support between the patient, patient's family, and their health care worker (Ward, 2004). For individuals with LTBI at high risk of progressing to TB, such as young children or those with HIV, directly observed preventive therapy involving a community health worker is also provided in Saskatchewan (Public Health Agency of Canada, 2013).

In Saskatchewan, TB remains at high levels among Indigenous populations. A 2009 report on the TB cases and rates in Canada indicates that the rate of TB among Indigenous peoples is higher than in our non-Indigenous population within Saskatchewan. The total Saskatchewan Indigenous rate for reported new active and relapsed TB is 35.3 as compared with the non-Indigenous rate of 1.0 and a total Canadian-born rate of 8.1. Métis communities in Saskatchewan reported an incidence rate of 19.9 per 100,000 as compared to 7.3 per 100,000 across Canada. However, since the beginning of the 20<sup>th</sup> century, TB disease rates have fallen noticeably. This is due to a combination of better public health interventions, living conditions, and drug treatment (Public Health Agency of Canada, 2006).

Historical research suggests that although endemic TB may have been present before European contact with Canada, the TB epidemic of the last couple of centuries was in fact brought by TB-infected European fur traders who settled in Canada. The Indigenous people of eastern Canada were probably first exposed to TB around 300 years ago. Those on the west coast were exposed about 200 years ago, and with the development of the Canadian Pacific Railway and the implementation of the reserve system, Indigenous peoples of the Prairie Provinces were exposed approximately 100-120 years ago. Initially, the disease spread quickly due to Indigenous people's low immunity to the disease. The devastating effects of colonization and oppression such as loss of traditional lifestyles and food sources, creation of the reserve system,



displacement, crowding, and institutionalization in residential schools created social conditions that benefited the pathogen, which continued its spread (Grzybowski & Allen, 1999). In the early 1900s Indigenous peoples living on the Canadian prairies were 20 times more likely to die from TB than non-Indigenous Canadians (Sproule-Jones, 1996). For example, in July 1921, the Saskatchewan Anti-Tuberculosis Commission was established to study TB. Led by Dr. Ferguson, several surveys revealed that more than 90% of tested Indigenous children in residential schools and adults on reserves confirmed positive for TB (MacKenzie, 2002; Wherrett, 1977).

In the past TB was called ‘consumption’ and there was no treatment for this highly infectious, usually chronic disease. In Canada, TB was the main public health concern and was the leading cause of death in the 1800s and early 1900s. Back then, little was known about the disease epidemiology, prevention, and treatment. Due to an escalated fear of TB contagion, individuals with active TB were quarantined in sanatoriums. The first TB sanatorium built in Saskatchewan was in Fort Qu’Appelle, called Fort San, in 1917. The Saskatoon San was built in 1925, and Prince Albert San was built in 1930 (The Lung Association of Saskatchewan, 2013). These sanatoriums were used in an effort to both isolate and cure those with TB. The assumed best treatment at the time included providing infected individuals with plenty of fresh air, sunshine, bed rest, good nutrition, and sometimes surgical procedures (Maud, 2012). A diagnosis of pulmonary TB often meant patients had a lengthy stay in a treatment facility, from 1 year to as long as 10 years. Families were separated for years, and at a times permanently (Staples, McConnell, & Oakes, 1964).

Early efforts to both prevent and treat TB through sanatoriums amplified community fears and misunderstandings about the disease and treatment in Indigenous communities. Many Indigenous people tried to evade treatment given the possibility of years in the hospital under strict routine with little or no contact with their own community. Hospitalization for Indigenous people often meant a loss of family and community connection, language, traditional food, lifestyle, and spirituality. Staples, McConnell, and Oakes (1964) state, “...long-term separation from the cultural environment, especially for children, inevitably resulted in a loss of heritage. For children who grew up at the Camsell and other tuberculosis sanatoria, the transition to their former life was often difficult” (p. 9). Many children and adults encountered the loss of their traditional language, because they often learned English or other Indigenous languages in order

to communicate with the nurses and doctors, and to converse with their roommates. However, the loss of their language meant they were unable to communicate with family members and loved ones upon returning home. One Inuit boy, a TB patient at the Camsell Sanatorium in Edmonton, Alberta, who was discharged to his home community of Cambridge Bay was quoted as saying, “I don’t like Eskimos. I can’t understand what they are saying. I speak Cree” (Staples, McConnell, & Oakes, 1964, p. 11).

Sanatoriums were seen as an institution extremely disruptive to family and community life. Having family members absent for long periods of time eroded Indigenous people’s sense of family and belonging (Moffat, 2013). Lengthy stays at a sanatorium often led to increased family and social problems due to the absence of family members. The hospitalization of a spouse meant serious difficulties economically and socially, especially if children were involved. The spouse at home had to find outside help to maintain the household, support the family, and raise the children. At times, they were forced to replace their partner, which led to conflict and pain when and if the recovered spouse returned (Staples, McConnell, & Oakes, 1964).

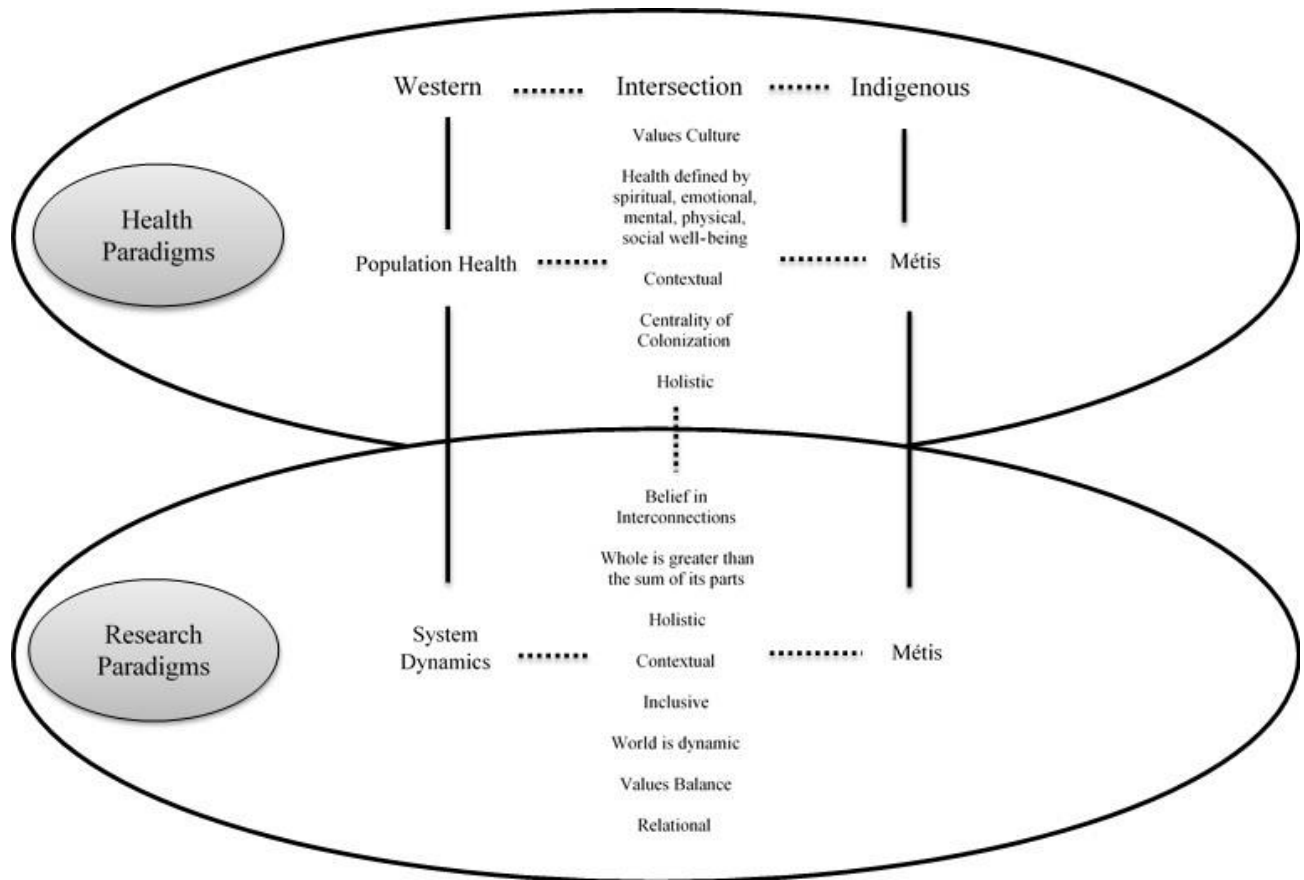
In the past, most Canadians had little understanding of TB disease transmission. Many religious people believed that contagious diseases like TB represented God's punishment for the sins of society. Also, many race-based theories dominated TB research during the 1900s to hypothesize why Indigenous peoples experienced higher rates of the disease. Such theories included the notion that Indigenous people possessed genetic defects leading to inherent racial susceptibilities, the belief that Indigenous peoples have a hereditary tendency to TB, that ‘primitive’ people’s lack of exposure to TB made them more susceptible, and finally that those with higher quantities of Indigenous blood were more susceptible to the disease. Indigenous patients suffering from TB were often regarded as fundamentally weak and diseased, and were often blamed for the TB epidemic (Sproule-Jones, 1996). Moffat’s (2013) study reported some stories shared by Indigenous sanatorium patients. One participant shared, “They were called health workers. They came from some Government office. They said you people are dirty, that’s why you have TB” (p. 62).

Sanatoriums served a vital purpose prior to the discovery and availability of anti-tuberculosis drugs. They separated infectious patients from healthy society to aid in stopping the disease’s spread. As well, sanatoriums were seen as an environment intended to optimize patients’ chance of cure, so they could return to their communities. Unfortunately, the

sanatorium system was based on ethnocentric ideologies, making the experience for many Indigenous patients emotionally and spiritually painful, adding to the burdens of colonization. Although many recovered from TB symptoms, reintegration into their families and communities was difficult. These historical experiences with TB disease, diagnosis, and treatment contribute to the present day situation in which TB is stigmatized and often associated with discrimination and misconceptions among the Indigenous populations of Canada. Much historical literature suggests that past traumatic experiences relating to the colonial history of TB treatment created a fear and mistrust of the current health system (Sproule-Jones, 1996). The significance of the continuing resonance of this history for Saskatchewan Métis today is further revealed in this study, as we bring Métis and western health and research paradigms together to shed further light on their perceptions and experiences of TB.

### Chapter Three: Theoretical Context

Chapter three provides the theoretical context for the study. Within this chapter I outline the system of concepts, assumptions, expectations, beliefs, and theories that support and inform this research. As well, I outline the conceptual theories that are lenses that illuminate and magnify different aspects of the research question(s). Figure 5 is a visual representation of the topics that will be discussed within this chapter.



**Figure 5. Blending health and research paradigms.**

*(Figure created by A. LaVallee using Microsoft Word)*

Within this chapter I provide a review of the relevant literature on Indigenous and Métis health paradigms, research paradigms, and methods; population health; and system dynamics. The following key words were searched: Métis and Indigenous health paradigms, research methods, population health research, community-based health research, and system dynamics. Electronic databases searched were National Aboriginal Health Organization (NAHO), PubMed,

Proquest Dissertations and Theses, Canadian Business and Current Affairs (CBCA) Complete, Sociological Abstracts, Aboriginal Canada Portal, Cambridge Journals Online, Cambridge Scientific Abstracts and Electronic Collections Online. Supplementary and unpublished references were identified through the review of article references, as well as recommendations by community members, colleagues, friends, and mentors. As such, the student researcher conducted website reviews of system dynamics, Métis health research, and Indigenous research paradigms.

The majority of the literature used within this dissertation is Canadian; more specifically, I prioritize Indigenous research and researchers located within the prairie provinces of Canada: Alberta, Saskatchewan, and Manitoba. Moreover, I highlight Indigenous research projects and researchers. My intention is to provide a local Indigenous/Métis context within this study. Also, I believe that as a Métis health researcher, it is important to prioritize Indigenous health research and researchers by advancing the Indigenous research and wellness agenda locally, nationally, and internationally. However, the majority of the literature on system dynamics and GMB was largely gathered from the United States, the Netherlands, and Europe. Historically, studies advancing the field of systems dynamics have emerged from universities across the United States within the areas of engineering, ecology, economics, and business management (Forrester, 1961).

### **3.1 Health Paradigms**

A paradigm is a broad, overarching, interpretative framework, which is guided by "a set of beliefs and feelings about the world and how it should be understood and studied" (Guba, 1990, p. 17). A paradigm provides individuals with a conceptual framework, a way of seeing and understanding one's perceptions and context. Health paradigms are the culturally and socially embedded health definitions, beliefs, perceptions, practices, and ethics of a population. A health paradigm takes into account health within a cultural context involving how health knowledge, beliefs, and practices are produced and interpreted at an individual, family, and community level. Therefore, ontology, epistemology, and axiology are all components of a health paradigm. All cultures have systems of health beliefs to explain what causes illness, how it can be cured or treated, and who should be involved in the process. It is important to ensure one is using an appropriate paradigm when exploring the health of an individual, family, community, and/or population (Cunningham, 2009).

### **3.1.1 Western Models.**

Over the last century the medical profession dominated the health domain, because death and illness were typically caused by infectious diseases. Thus, much scientific progress was made in the developments of curing endemic infectious diseases. Such advancement was made in the understanding of disease epidemiology and the development of antidotes for cholera, diphtheria, smallpox, measles, rubella, typhoid, rabies, and tetanus (to name a few). As a result, health was typically defined as the “absence of disease or illness”, thus resulting in a biomedical understanding of health (Rootman & Raeburn, 1994).

In the biomedical model of health, a disease state is considered a deviation from normal biological functioning and the assumption was that biomedical advancement would lead to disease elimination. Consequently, health research has been influenced by the biomedical model of health comprising western medical systems and practices. As such, the focus of health systems and health research was on objective human biology, which did not take into consideration the role of social factors on an individual’s health (Shah, 2003). Within the field of epidemiology research, health status is still measured by indicators such as incidence, prevalence, and mortality rates. Such indicators do not directly help to improve our understanding of the underlying factors such as the social context that play a role in the occurrence and commonness of chronic and other infectious diseases (Singer, 2009).

Our understanding of health and disease in Canada has evolved over the last 40 years, however. In 1974, the Federal publication of *New Perspectives on the Health of Canadians*, by then Minister of Health Marc Lalonde, had a huge impact on public health practice both locally and globally. It led to renewed efforts in developing new approaches to health promotion, and public, community, and population health. The Lalonde Report established a framework of the key factors that determine health status. The report suggested that the current medical system was not the primary factor in health creation for individuals and communities. The Lalonde report provided the much needed impetus for the role of health researchers, policy makers, and governments (Rootman & Raeburn, 1994).

In 1989, the Canadian Institute for Advanced Research (CIAR) further addressed the determinants of health and their interplay by discussing the concept and perspective of population health. Population health suggests that it is the social environment and not merely the health care systems that determine health (Coburn et al., 2003). A population health approach

steps away from the isolated, individual focus of medicine and public health approaches, to incorporate the social, economic, political, educational, and cultural environments that influence health and well-being in a population (Raphael, 2004). The Public Health Agency of Canada (PHAC) defines population health as,

...an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health. (2004, p. 1)

A population health approach allows for more holistic definitions of health and wellness, inclusive of physical, mental, emotional, spiritual, community, and environmental factors. It offers the opportunity for health status outcomes such as life expectancy, and the presence or absence of disease, to be linked to social determinants of health such as income, employment, education, and housing (to name a few) (Raphael, 2004). As such, it entails gaining important information in understanding what it means to have healthy communities, and to provide holistic comprehensive profiles. Thus, research on human health slowly progressed from a biomedical model of health to combining a population health approach that utilizes the social determinants of health framework. A population health approach has helped to develop health research agendas beyond health care. For these reasons this approach has the potential to be invaluable to Indigenous health research. However, it must be noted that population health is not value free, nor is it a neutral and universal research and policy paradigm. It is a Western model of health rooted in epidemiology and economics, and it has a specific position on the nature of knowledge production with regard to health. Population health has assumptions regarding what is viewed, valued, and defined as worthy explanations of health and subsequent data to be researched, collected, and analyzed (Coburn et al., 2003).

Young (2003) states that traditional western research always considers non-Indigenous people to be the “normal” category and the geographic, cultural, socioeconomic differences in the Indigenous population are “statistically controlled”. The author mentions that statistically “controlling” for socioeconomic status and geographic isolation may not be advisable, as such factors are central to Indigenous peoples experience in many regions, and removing them takes away the most influential clarifying variables. Young (2003) asserts that genetics and

environmental contaminants have received more attention than other social determinants of health. Even after two decades of knowledge about the social determinants of health, population health researchers are still reluctant to embrace political and the structural (racism, discrimination, sexism) determinants in mainstream research but focus more on “lifestyle” factors such as smoking, alcohol consumption, or physical activity. While population health researchers acknowledge that the health of individuals and populations is influenced by various social determinants of health, this knowledge is not always applied. This western paradigm of health, though shifting towards to an all-encompassing holistic approach, still clings to the biomedical linear approach to health (Czyzewski, 2011; Raphael, 2006). Raphael (2006) states,

In Canada and the United States, and probably elsewhere, there is little penetration of these concepts into either public health discourse or government policymaking. This has much to do with dominant public health strategies whose individualist approach, based in biomedical and epidemiological traditions, conflicts with a structural approach to understanding health and its determinants. (p. 660)

Although the Public Health Agency of Canada has identified that a population health approach using a social determinants framework has considerable influence in understanding the health of individuals and communities, it is inadequate for understanding the health inequities faced by Indigenous peoples in Canada. A population health perspective excludes the social and political context that underlies some of the most persistent socioeconomic inequities between Indigenous and non-Indigenous Canadians: the impact colonialism has on languages, culture, and identity of Indigenous peoples (Czyzewski, 2011; National Collaborating Centre for Aboriginal Health, 2011).

Another opportunity to understand disease in a population is to take a syndemic approach. Comparable to a population health approach, syndemic theory suggests viewing chronic and infectious diseases from a holistic perspective with inclusion of an individual, a population, and their social contexts (Singer, 2009). In the mid-1990s Merrill Singer, a medical anthropologist from Connecticut, wrote several articles and book chapters<sup>14</sup> stating that social,

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<sup>14</sup> To name a few, “Rethinking AIDS Prevention: Cultural Approaches” (1992); “The Political Economy of AIDS” (1997); and “Medical Anthropology and the World System” (1997).



economic, political, and cultural issues are intertwined with those of health. Receiving growing attention from epidemiologists and medical anthropologists concerned with community health and the effects of social conditions on health, in 2009 Singer wrote a book titled *Introducing Syndemics: A Critical Systems Approach to Public and Community Health*. His book explicitly outlines that diseases do not exist in isolation from other diseases and health conditions. The term “syndemic” refers to the combination of two or more diseases in a population in which there is some level of interaction between the diseases that worsens the negative health effects of any or all of the diseases. Syndemics tend to progress when there are health disparities caused by poverty, stress, or structural violence, therefore contributing to a significant burden of disease in an affected population (Singer, 2009).

Singer (2009) argues that social issues and chronic and infectious diseases syndemically interact. Poverty, sexism, racism, exclusion, stress, addiction, and violence are important factors that are interwoven in the dynamics of chronic and infectious diseases. Those subjected to such social disparities are more susceptible to disease-causing agents and/or health conditions, thus increasing the burden of disease. These adverse social and physical conditions work together syndemically to considerably affect the overall well-being of a population. As such, Singer suggests a paradigm shift away from the biomedical model of health toward a syndemic theory to provide “the understanding of what disease is and how it is manifested in complex biosocial feedback<sup>15</sup> environments. Syndemics theory aids in a holistic understanding of the complex interconnected factors that underlie chronic and infectious disease as well as the complicated interplay among these factors (Singer, 2009).

International research suggests that many of the current models of health and health systems are mono-cultural, culturally insensitive, and not reflective of the socio-cultural practices and beliefs of Indigenous peoples (Cunningham, 2009). The United Nations (UN) is an organization that aims to maintain international security, peace, economic development, and social progress for all. The UN advocates for the freedom, human rights, and health and wellness of all Indigenous peoples. In 2009 the UN released a report titled “State of the World’s Indigenous Peoples”. Chapter five of that document sets forth the context that current western

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<sup>15</sup> Biosocial feedback refers to the interaction between biological and social forces within ones environment influencing each other to produce a chain of cause and effect (Singer, 2009).

health systems promote a common heritage, beliefs, structure, language, and identity based exclusively on western medicine. The UN report asserts,

Western medicine does not recognize traditional healing techniques such as song and dance, or traditional training methods for medical practitioners, such as dreams, yet these practices are viewed as integral to the prevention, diagnosis and treatment of illnesses in indigenous health systems (Cunningham, 2009, p. 175).

Basically, the cultures and world views of Indigenous peoples are generally ignored and dismissed within health systems. Monoculturalism marginalizes Indigenous peoples and devalues their traditional health paradigms and systems (Cunningham, 2009). The report states,

To improve the health situation of indigenous peoples, there must thus be a fundamental shift in the concept of health so that it incorporates the cultures and world views of indigenous peoples as central to the design and management of state health systems (Cunningham, 2009, p. 156).

Canadian research suggests that the current western health system and services do not adequately address the causes of disproportionate rates of illness and dysfunction within Indigenous populations. A four year consultation process with Indigenous peoples of Canada, called the Royal Commission on Aboriginal Peoples (RCAP), explored and reflected on the past and current relationships between Indigenous peoples and the Canadian government and Canadian society. The primary purpose of the inquiry was to define a foundation for good relationship between Indigenous and non-Indigenous peoples of Canada. In November 1996, a four thousand-page report in five volumes was released. This extensive report made hundreds of recommendations with regards to pathways for Indigenous peoples to acquire self-determination, improved health status, and relationships and equity with non-Indigenous people. RCAP set out a twenty-year plan for implementing the recommendations (Indian and Northern Affairs Canada, 1996a).

Although RCAP is an eighteen-year old document, it is the only document that explicitly and extensively outlines Indigenous peoples' social, cultural, educational, environmental, political, and health contexts and concerns at a national, legislative level. Volume Three, titled

“Gathering Strength”, explores the health of Indigenous peoples of Canada. Within this volume, it states that Indigenous peoples and communities of Canada are plagued by a plethora of persistent health and social problems. Although health and health care within many Indigenous communities have improved, disparities still exist between Indigenous populations and other Canadian populations. The report concludes, “...the system’s assumptions about Aboriginal health and well-being and how to promote them are wrong for the job” (Indian and Northern Affairs Canada, 1996a, p. 184).

Notions about health, disease, and illness based on biomedical models of human health have dominated discourse about how health research should be conducted. However, as conceptions of health broaden, the traditional Euro-western biomedical model of health that separates the mind and body is challenged (Czyzewski, 2011). Contemporary Euro-western medicine is increasingly being challenged to respond to perspectives and treatments other than those of conventional medicine. A western health paradigm plays an important role in lives of all people, however, the intention of this theoretical context is to explore and offer insights into the limitations of the dominant culture. As well, I provide the reader an opportunity to break down any assumptions about the universality and ‘truthfulness’ of Western knowledge. Questioning power relations of the dominant culture allows the opportunity to see Indigenous knowledge as important in understanding health and well-being. There are opportunities for western science, knowledge, and research to connect with Indigenous science, knowledge, and research to create new approaches, frameworks, indicators, and practice with and within Indigenous populations. Western science is one knowledge system among many and “...could learn a thing or two from the way science is done in other cultures” (Iaccarino, 2003, p. 220). One western paradigm/approach that population health researchers can use is called system dynamics (explained in more detail in section 3.2.1).

### **3.1.2 Indigenous Models.**

Globally, Indigenous peoples have a variety of cultural practices, beliefs, customs, language, and ceremonies. As such, health paradigms within different countries, provinces, states, and communities may vary. However, upon reviewing the literature, certain common themes emerge relating to Indigenous peoples’ view and understanding of health. Many Indigenous cultures define health on a continuum of relationships and responsibilities with their environment, families, community, and ancestors. There are shared elements of ways of knowing

and being that can be drawn upon to understand health and well-being of Indigenous peoples (Cunningham, 2009). The shared and common themes include the following:

- Physical & Spiritual Are Not Separate
- Holistic - Contextual
- Inclusive - Cooperative
- Focus on the Land and Community
- Respect & Reverence for all Life
- Reciprocity and Interdependence
- Balance & Wholeness
- Inner & Outer Harmony
- Nourishing Spirit
- The World is Dynamic

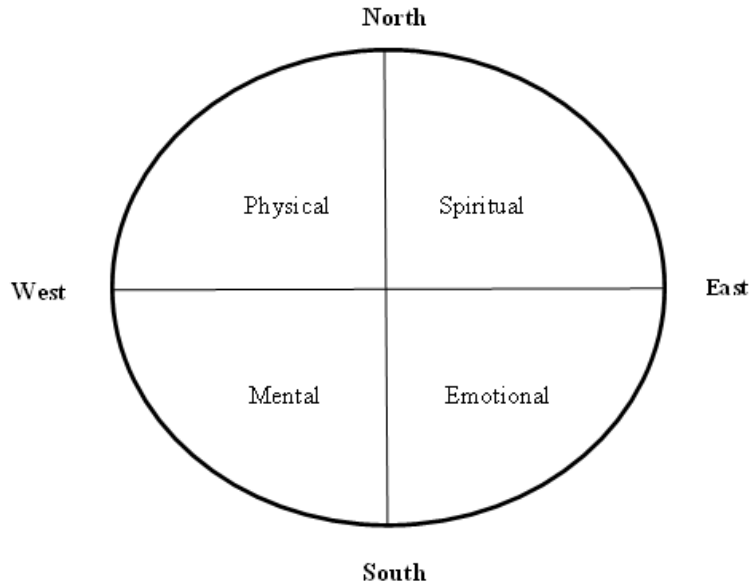
Indigenous models of health are based on concepts such as balance, holism, and interconnectedness. Spirituality, personal and community health, and the health of the environment are understood to be interrelated (Cunningham, 2009; Graham, 2006; Indian and Northern Affairs Canada, 1996a; Martens et al., June 2010; Métis Nation-Saskatchewan Health Department, 2012; Roberts, 2005). The United Nations report titled, “State of the World’s Indigenous Peoples” defines health to be the “harmonious coexistence of human beings with nature, with themselves, and with others, aimed at integral well-being, in spiritual, individual, and social wholeness and tranquillity” (Cunningham, 2009, p. 157). Indigenous peoples of Canada recognize that health is shaped by the relationships with families, communities, environment (Mother Earth), the spirit world, and with the Creator (National Collaborating Centre for Aboriginal Health, 2009). RCAPs Volume 3, “Gathering Strength”, describes concepts of health of Indigenous peoples of Canada. The report outlines health as a balance between our mental, physical, emotional, and spiritual well-being by honouring ourselves, family, community, and all of our relations (living and non-living on Mother Earth and in the Spirit world). The report clarifies the Indigenous model of health as “...holistic because it integrates and gives equal emphasis to the physical, spiritual, mental and emotional aspects of the person” (Indian and Northern Affairs Canada, 1996a, p. 187).

Indigenous peoples have frameworks for understanding health, healing, and wellness that are grounded in local values, cultural practices, or traditions of their communities (Cunningham,

2009). These teachings are represented in various ways, with the use of various symbols, by different Indigenous groups in Canada. For example, Indigenous peoples may use a Medicine Wheel, and Métis peoples may use an infinity symbol or a Red River cart wheel. Dr. R. A. Roberts, a Woodlands Cree scholar from Stanley Mission Saskatchewan, researched perceptions of cancer, health, and illness of the Woodland Cree of Lac La Ronge. Her (2005) dissertation titled *Stories about Cancer for the Woodland Cree of Northern Saskatchewan* revealed that the Woodland Cree worldview of health and well-being is an inseparably interwoven mix of Indigenous and Western ways of understanding health. The Medicine Wheel shown in Figure 6 was used as visual framework and metaphor for a way of perceiving and understanding health. Roberts (2005) used the Medicine Wheel because it provided a holistic understanding of health, inclusive of emotional, mental, spiritual, and physical health.

In many Indigenous cultures across Canada, the Medicine Wheel can be used as a tool for cultural teaching and as a framework for understanding health: the four quadrants symbolizing holistic health. However, the Medicine Wheel has diverse meanings to different Indigenous peoples across Canada. Figure 6 provides one understanding of a Medicine Wheel, however there are many different types of Medicine Wheels that provide understanding and teachings, such as life stages (child, adolescence, adulthood, Elder), the four sacred plants (cedar, sage, tobacco and sweetgrass), the four seasons (spring, summer, winter, fall), and the four aspects of the self (physical, mental, emotional, and spiritual). Different Medicine Wheels have different colours, placements, and meanings. A broad and generalized understanding of a Saskatchewan Plains Cree Medicine Wheel is that the circle represents the cycle of night and day, of the seasons, and of birth, life, and death. As well, each of the four directions has many teachings connected to it that influence health and well-being of individuals, families, communities, and nations (Bopp & Lucas, 1989). Ultimately, the circle represents the notion that everything is interconnected and part of a whole; as such, the whole is greater than the sum of its parts.

Roberts (2005) notes that the Woodland Cree have the capacity to pick the best from both traditional and Western worlds when understanding health and illness. Her research concludes that holistic health understood by the Woodland Cree is an intricate mix of Cree and Western teachings, language, and practices to understand, attain, and preserve health and wellness in their families and communities (Roberts, 2005).



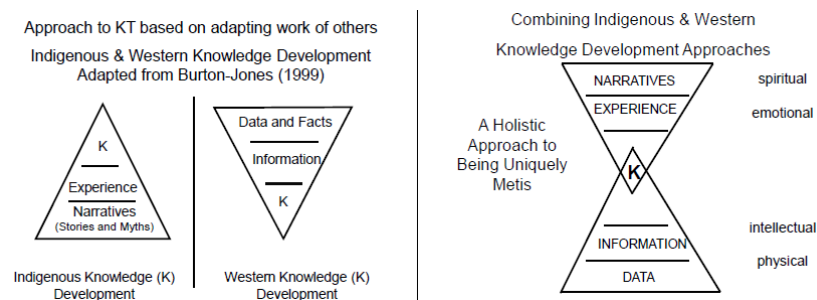
**Figure 6. Medicine wheel.**

(Figure created by A. LaVallee using Microsoft Word adapted from “Stories about cancer from the Woodland Cree of Northern Saskatchewan” by Roberts, 2005. Retrieved from <http://ecommons.usask.ca/handle/10388/etd-01042006-163028>)

Graham (2006), a Saskatchewan Plains Cree scholar from Thunderchild First Nation, wrote *Defining Health from a Plains Cree Perspective*. The author explores the ways in which her Indigenous community defines, understands, and attains good health. Graham (2006) notes that all research participants stated optimal health involves a balance of one’s physical, mental (intellectual), emotional, and spiritual wellness, thus explaining health from a holistic perspective. As well, many participants in the study state that they combine traditional (Cree) and Western practices to maintain their health. Graham (2006) concludes that the health of the Plains Cree people of Thunderchild is best described, understood, and determined holistically. Additionally, the Medicine Wheel is a culturally respectful, appropriate, and holistic methodology and framework for understanding and framing Indigenous health.

The Manitoba Métis Federation (MMF) is the official democratic and self-governing political representative for the Métis peoples of Manitoba. In 2005, the MMF created a health and wellness department and, since then, has worked extensively on health research, policy analysis, and program planning and community wellness development to improve Métis health in Manitoba. In 2006 the MMF teamed with the Manitoba Centre for Health Policy (MCHP) and investigated health status, healthcare use, and social indicators of health of Métis in Manitoba. In

2010 the MMF released their Métis health report titled, “Profile of Health Status and Healthcare Utilization in Manitoba: A Population-Based Study” (Martens et al., June 2010). The purpose of this report was to examine population-based indicators of the health status, healthcare use, and social determinants of health of the Métis of Manitoba. The authors described their Métis methodology that was utilized for their report. They emphasize that their Métis methodology was rooted in a combination Indigenous and European understanding and grounded in holistic ways of knowing, inclusive of the spiritual, emotional, physical and intellectual aspects. As such, the authors collected diverse knowledge forms such as narratives, experience, data and information. Narratives and experience were identified specifically as Métis knowledge development honoring the spiritual and emotional aspects of holism. Whereas, information and data were that were collected were deemed western knowledge development honoring the intellectual and physical aspects of holism. Figure 7 is the visual representation of the Métis methodology used for interpreting and advancing the knowledge gathered for this report (Martens et al., June 2010).



**Figure 7. Métis framework.**

(Figure taken from “Profile of Metis Health Status and Health Care Utilization in Manitoba: A Population-Based Study” by Martens et al., June 2010, p. 32. Retrieved from <http://mmf.mb.ca/docs/healthstatussummary.pdf>)

Additionally, the report used and adapted a holistic framework as a tool for organizing thoughts and information. This holistic framework was titled a *Métis Life Promotion Framework- Determinant of Life* (Martens et al., June 2010). This framework was used as a way of thinking about the intricacies and interconnectedness of life, health, and well-being. The framework is made up of sixteen areas of life with the understanding that wellness is about creating balance among the areas; also referred to as determinants of life. The areas identified are:

- Spiritual
- Emotional

- Physical
- Intellectual
- Political
- Economic
- Social
- Cultural
- Nation
- Community
- Family
- Individual
- Child
- Youth
- Adult
- Elder

The authors explicitly state that the framework is not an ideology and does not represent Métis culture; however, they state that the holistic context of the framework is consistent with Métis holistic understanding of health and well-being. To respect and honor Métis heritage the symbol used to represent the framework was an Infinity symbol. The Métis national flag has an infinity insignia because it represents the connection between two distinct cultural groups that came together to create a distinctive group; the Métis. Figure 8 is the visual picture of the framework used for the report (Martens et al., June 2010).



**Figure 8. Métis life promotion framework – determinants of life.**

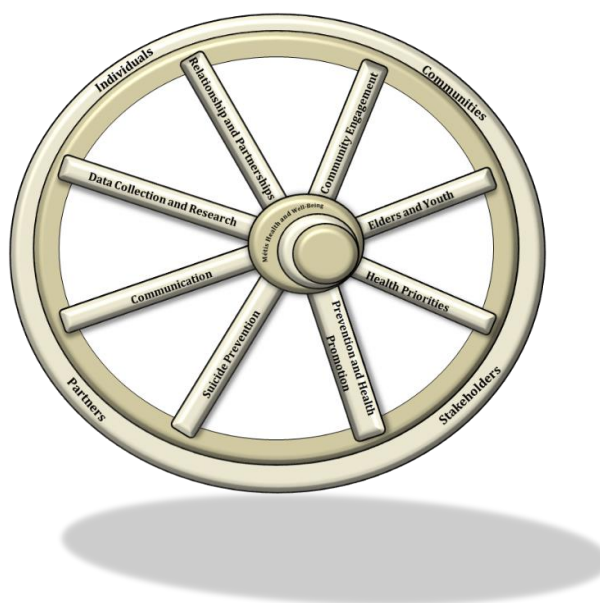
(Figure taken from “Profile of Metis Health Status and Health Care Utilization in Manitoba: A Population-Based Study” by Martens et al., June 2010, p. 33. Retrieved from <http://mmf.mb.ca/docs/healthstatussummary.pdf>)

More recently, the Métis Nation-Saskatchewan (MN-S) Health Department developed a Métis Health Strategy, titled “Miyo âyâwin”. *Miyo âyâwin* is a Plains Cree and Michif word used to describe health. The Health Strategy states that *miyo âyâwin* is the foundation for the holistic



perspective of “being healthy”, taking into account the physical, mental, spiritual, and emotional wellness of the individual, family, and community. The report states that Métis health is inclusive of all aspects of Métis life: traditional knowledge, health knowledge, healing practices, culture, language, history, and experience. It suggests, therefore, that these factors are interlinked with the Michif language, passed on with stories and histories of Métis communities and deeply rooted in a connection to the land. The MN-S Health Strategy illuminates that the history, language, culture, and spirituality are complexly interconnected in the health and well-being of our Métis populations in Saskatchewan (Métis Nation-Saskatchewan Health Department, 2012). Adapted from a community wellness model articulated by the Sakitawak Métis Nation, Ile a la Crosse (Askiy Consulting Inc., 2005), the MN-S Health Department uses a Red River cart wheel as a framework for understanding Métis health and wellness. Historically, the cart was an innovative creation of the Métis during the fur trading era of the 1800s. This cart was an adaptive and resourceful transporter, allowing the moving and hauling of furs, food, and people, in a more efficient and effective way on the harsh prairies (Sealy & Lussier, 1975).

As a framework for understanding health, the wheel, hub, spokes, and felloes metaphorically represent the interconnectedness of health and well-being for Métis peoples. As seen in Figure 9, the Red River cart wheel is a culturally recognizable symbol for most Métis people (Métis Nation-Saskatchewan Health Department, 2012).



**Figure 9. Red River cart wheel.**

(Figure taken from “*Miyo âyâwin: Métis Health and Well-Being Strategy*” by Métis Nation-Saskatchewan, 2012, p.

17)

The wheel has a hub, spokes, and felloes, which represent the intertwined nature of Métis health and well-being, as well as the established priority areas for action (Métis Nation-Saskatchewan Health Department, 2012). Explanations of the parts are as follows:

- Hub – This is the middle of the wheel, which provides the anchor for the wheel. Métis Health and Well-Being is metaphorically the hub representing Métis culture, language, values, and traditional knowledge, which hold the community together (Métis Nation-Saskatchewan Health Department, 2012).
- Spokes – These are connected to the hub and are of equal length and distance apart, demonstrating balance and equality in health action priority areas. As well, the spokes represent communication, data collection and research, relationship and partnerships, community engagement, elders and youth, health priorities, prevention and health promotion, and suicide prevention. Each spoke is important, because the wheel will not function without unbroken spokes (Métis Nation-Saskatchewan Health Department, 2012).
- Felloes – These are the sections of the rim of a wheel supported by spokes. The felloes hold the spokes in place, providing strength and support to the wheel. Indicated in this diagram, the felloes are the individuals, communities, partners, and stakeholders working together to provide strength and support towards improving Métis health (Métis Nation-Saskatchewan Health Department, 2012).

In brief, the MN-S Health Department’s Health Strategy states its dedication to advancing the social, cultural, educational, health, and political health research with and for Métis peoples of Saskatchewan (Métis Nation-Saskatchewan Health Department, 2012).

Indigenous peoples of Canada have frameworks for understanding and defining health and well-being. The frameworks are largely holistic, with a focus on creating a state of internal and external harmony within themselves, in relation to others and the earth, inclusive of their economic, social, political, spiritual, and cultural environments. This is in contrast to Western

concepts of health and practice, where health care providers often only have time to treat the disease and not the whole being, family, or community. Both western and Indigenous traditions are equally valid while being diverse. From an Indigenous perspective, we are all related, and each way of thinking and knowing has an equal place within health research (National Collaborating Centre for Aboriginal Health, 2009).

From an Indigenous point of view, when researching or working with or for Indigenous populations, health research, frameworks, and systems should reflect the interconnectedness of mind, body, and spirit, inclusive of person, family, community, and all life; this is essential to good health. Understanding health in this manner requires individuals to appreciate that illnesses are not just epidemiological concerns identified by Western medicine. A holistic approach to health would mean that health research is not just an intellectual exercise; it would take into account various ways of searching for knowledge and understanding such as ceremony, stories, song, prayer, and dance.

### **3.2 Research Paradigms**

Across disciplines there are varying views of what research is and how it relates to the type of knowledge being developed. A research paradigm guides how researchers make decisions and carry out their research. A paradigm is “a set of beliefs about the world and about gaining knowledge that goes together to guide people’s actions as to how they are going to go about doing their research” (Wilson, 2008, p. 175). In other words, a research paradigm is a broad framework of perception, understanding, and belief, within which theories and practices work. The main components of a research paradigm include ontology, epistemology, methodology, and axiology. Ontology is the study of reality and what a researcher believes to be social reality. Epistemology is the philosophy concerned with the origin, nature, methods and limits of knowledge. It is the knowledge gathering process. Methodology is the ‘doing’ part of research, and as such, relates to how a researcher may explore the social world and demonstrate that the knowledge is legitimate. Axiology refers to the researcher’s internal values that influence his/her perceptions, decisions, and actions (Wilson, 2008).

Western research does not always contain the necessary knowledge or language to fully address Indigenous health issues. Decisions on the most appropriate research paradigm are dependent upon particular research problems/questions. Sometimes, the paradigm the researcher holds drives the research agenda. Different research paradigms, methods, and ethics provide

diverse lenses through which to examine Métis health issues, and as health researchers we have the opportunity to explore such diversity while engaging in community and population health research. The approach or blend of approaches we choose is important because it can help provide a holistic picture that illustrates how our social, cultural, educational, and health processes and practices can contribute to the health and well-being of our Métis populations. System dynamics (a western research paradigm and associated methodology) is one such framework that has the potential to aid in understanding health and illness in populations when paired with a Métis research paradigm and methods, because “Despite their variations, different forms of knowledge can learn from each other” (Mazzocchi, 2006, p. 463).

### **3.2.1 Western Research: System Dynamics.**

Western knowledge is embedded in western science and research and has long held a dominant role and position in the world. The Latin meaning of ‘science’ is ‘knowledge’; thus it is the search for reality and knowledge (Cajete, 2000). Origins of western knowledge are in Western Europe and deeply rooted in the philosophy of Ancient Greece and the Renaissance. Euro-Western knowledge is founded on positivist and reductionist science, and valid knowledge gained was measured and proven by empirical evidence. Western scientists insist that science must be culturally neutral to qualify as science. Western knowledge is often described in the following ways:

- With science as a subset of Euro-Western culture
- People as separate from the world around them
- As empirical
- As static
- As written
- With a focus on the physical world - absence of the spiritual
- In a compartmentalized way
- As a fragmented worldview

- As linear - hierarchical

In a de-contextualized way Western science remains the dominant method for researching, however we should not forget that all cultures throughout history have produced and accumulated knowledge to understand and explain the world (Cajete, 2000; Iaccarino, 2003).

Unlike many western scientific approaches, such as a biomedical perspective, system dynamics proposes to view systems in a holistic manner. Vennix (1996) suggests that system dynamics is "...a theory of the structure and behavior of complex systems" (p. 44). Accordingly, system dynamics theory suggests that the whole is greater than the sum of its parts, thereby taking a broad perspective of systems, including seeing overall structures, patterns and cycles in systems rather than seeing only specific events in the system. With this in mind any model or any method that looks solely at separate events or problems is not necessarily seeing the full picture and is therefore providing a limited view of the problem. Accordingly, system dynamics takes a dynamic view of a problem (within a system) rather than a static view (Forrester, 1961).

System dynamics was created and developed by Jay Forrester, a computer engineer and systems scientist, while he was at the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology (MIT). Given his background in feedback control systems<sup>16</sup> and computers, Forrester was looking to apply his knowledge in pursuit of management science, an interdisciplinary branch of applied mathematics dedicated to decision planning by linking economics, business, engineering, and other sciences (Forrester, 1961). The first introduction of system dynamics theory was in a 1958 article written by Forrester for the Harvard Business Review, called "Industrial Dynamics: A Major Breakthrough for Decision Makers." This article outlines the beginning philosophies of system dynamics (Forrester, 1958). With his continued dedication to developing and applying theories and models to highlight management issues and solve managerial problems, Forester wrote *Industrial Dynamics* in 1961. This was his first book outlining the paradigm for this new science. Originally called industrial dynamics, system dynamics proposes that social or organizational systems can be studied as information feedback control systems. Accordingly, system dynamics was developed to be a

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<sup>16</sup> "A feedback control system exists whenever the environment causes a decision that in turn affects the original environment" (Forrester, 1958, p. 39).

computer-aided approach to policy analysis and design grounded in the theory of nonlinear dynamics<sup>17</sup> and feedback control (Forrester, 1961).

Essentially, system dynamics is a modeling paradigm for looking at systems. A model is a human-constructed representation of something to help us better understand real world systems. A model can help enhance understanding of reality because reality is broken down into bite-size pieces that are conceived from the real world and simplified. A model can come in many shapes, sizes, and styles. All diagram, graph, mathematical, and mental models represent a specific theory about a problem, and a theory that is explanatory and conceptual about a reality. Therefore, the main goal of a system dynamics model is to enhance understanding of the system's behavior (Albin, 1997).

System dynamics recognizes that systems are everywhere; they are living and non-living, such as the circulatory system in your body, a department at an organization, and even a light switch. This theory proposes that systems are a group of interacting, interconnected, and mutually dependent components that form an intricate and united whole. As such, systems comprise a number of linked feedback<sup>18</sup> loops: complex connecting factors, causes, effects, and solutions that interact with each other to function as a whole. These parts interact to produce behaviours within systems. These behaviours impose on one another to cause feedback, and can subsequently result in adaptation of the original behaviours. In this way, the behaviour of a system cannot be reduced to the behaviour of any one part, but rather the interaction between parts of a system (Sterman, 2000).

A system dynamics model is built to understand a system of forces that have created a problem and continue to sustain it. That being said, system dynamics models represent problems, not systems; a model cannot exist without defining a problem<sup>19</sup>. To create a model with meaning and purpose, there must be an underlying problem in a system that creates a need for further knowledge and understanding of the system. System dynamics is best suited for problems that

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<sup>17</sup> For example, many natural phenomena are subject to nonlinear dynamics, such as the population level of foxes and rabbits. When fox populations are up, rabbit populations are down, because foxes eat rabbits. When the fox population dies off, perhaps due to disease, there will be more rabbits.

<sup>18</sup> Feedback is the process in which information about the past or the present influences the same occurrence in the present or future; it is the cycle of cause-and-effect that forms a loop (Sterman, 2000).

<sup>19</sup> The process of defining a problem is called a reference mode of behaviour and behaviour over time in the system dynamics literature (Vennix, 1996).

are dynamic and long-term, with the ability to define the problem (make a reference mode), and the ability to think in stock and flow processes. It is important that a problem be dynamically complex and not static because of underlying feedback processes (Albin, 1997).

Since the 1970s system dynamics methodology has been applied to public health issues such as heart disease, cervical cancer, diabetes, HIV/AIDS, chlamydia infection, tobacco reduction, and interactions between public health capacity and disease epidemiology (Homer & Hirsch, 2006). The majority of these modeling efforts have been pursued with the help of clinicians and policymakers who have a direct involvement in the problem being modeled (Homer & Hirsch, 2006). In “System Dynamics Modeling for Public Health: Background and Opportunities”, Homer and Hirsch (2006) suggest that system dynamics is a promising methodology addressing epidemiological concerns, as well as issues of health care capacity and delivery and managing patient flow. The authors state that system dynamics provides tools for mapping connections among diseases to provide a comprehensive picture of the health-related problems, policies, and social change in a community. System dynamics invites health clinicians, administrators, educators, researchers, and community members that live with and respond to multiple health problems to develop a knowledge and understanding of the dynamic forces that surround these multiple health problems. This methodology allows individuals to pay closer attention to the connections and interactions between concurrent and persistent diseases in a population. Moreover, system dynamics methodology considers the interaction between these diseases and the social conditions that contribute to their distribution within the population. The authors state that the use of diagrams and policy-oriented computer simulation models are valuable illustrative tools of system dynamics. Research that uses computational modeling to understand disease has been closely involved with clinicians and policy makers who have a direct stake in the problems being modeled, and who therefore make the decisions on what variables/factors are important and included in the model. However, community members and/or the affected population were not involved (Homer & Hirsch, 2006).

Within the last eight years, research in the area of system dynamics within Saskatchewan has been initiated by Dr. Nathaniel Osgood, an Associate Professor at the University of Saskatchewan in the computer science department. Dr. Osgood focuses on computational mathematical modeling with a group of system dynamists, investigating chronic and infectious disease in the general population as well as in the Indigenous population of Saskatchewan. Dr.

Osgood has initiated many research endeavours and projects applying system dynamics to chronic and infectious disease. Working with a team of Master's and Doctoral students as well as colleagues, one of Osgood's foci has been on TB in Northern Saskatchewan. His team has created TB models in consultation with Saskatchewan TB Control. Their current models focus on provincial TB epidemiology as well as contact tracing. However, they intend to investigate and include socio-environmental risk factors within their models, such as crowding, smoking, and diabetes, and their impact on residents in Northern Saskatchewan. As well, Osgood and his team are interested in understanding how obesity, diabetes, and end stage renal disease will affect TB in that population (Osgood, 2011).

Tian (2011), one of Dr. Osgood's students, wrote *Agent-Based Modeling and System Dynamics Modeling on Transmission of Tuberculosis in Saskatchewan*. This is a thesis that looked at tuberculosis transmission in Saskatchewan and a community in Saskatchewan to evaluate the efficiency of prevention programs such as contact tracing investigation. The author developed both agent-based models and system dynamics models to gain insights into how they can assist policy development and decision making in TB disease control. As well, Osgood, Mahamoud, Hassmiller, Tian, Al-Azem, and Hoepfner (2011) wrote "Estimating the Relative Impact of Early-Life Infection Exposure on Later-Life Tuberculosis Outcomes in a Canadian Sample". This article discusses the use of a dynamic computer simulation model to understand the effects of early-life influences on later-life tuberculosis outcomes.

Research conducted by Dr. Osgood and his colleagues reflects a focus on computational modeling based on historical and current statistical data gleaned from Saskatchewan health organizations. Therefore, their research centers on mathematical models in computational science with the use of computer simulation. Their research provides a western biomedical and epidemiological perspective and outlook on the factors contributing to TB within a community, as well as TB programs and policy interventions. Hence, their research is valuable in understanding disease dynamics in the field of epidemiology. On the other hand, it was not conducted with a community or community members' understanding of TB disease dynamics. It is unknown, therefore, if this research is culturally, ethically, politically, educationally, and socially appropriate within specific communities and within an Indigenous context.

Just like the above mentioned research projects, most system dynamics model building has typically taken place out of sight of the client groups. However, since the late 1980s there



has been a growing movement whereby system dynamists involve the client (also called stakeholders, participants, and team members) in the process of model building. This system dynamics approach, called group model building (GMB), is a participant focused, collaborative, cooperative, and hands-on method of model building (Vennix, 1996).

### **3.2.2 Indigenous Research: Métis.**

Indigenous research paradigms have become a major focus in the health research arena more recently, and there is a growing body of literature on the topic. Much movement has been made to identify and validate Indigenous research paradigms from a Kaupapa Māori, Cree, and Sauteaux perspective. Currently in Canada, most of the Indigenous health research methodologies and paradigm comes from a First Nations and Inuit worldview, and Métis people are almost always considered as part of it. Past and current Indigenous scholars have been paving the way for an Indigenous research paradigm and methods to be recognized and utilized within our universities. Moreover, they are creating a body of Indigenous theoretical approaches, methods, protocols, and ethics in use by Indigenous researchers in the study of Indigenous peoples. The main objective to date has been to ensure that research on and with Indigenous peoples is carried out in a culturally appropriate, respectful, ethical, truthful, responsive, and beneficial manner (Smith, 1999). At this time, there is little documentation around the use of a Métis research paradigm and methods. Consequently, many Métis researchers have borrowed, adapted, and adopted local, national, and international Indigenous research methods and ethics within their work. Most of what I have learned about a Métis research paradigm has been through lived experiences and stories from and with my family, friends, mentors, and community.

Kirkness and Barnhardt (1991), Smith, (1999), Wilson (2008), and Kovach (2009) are a few of the influential and contemporary Indigenous/non-Indigenous scholars that have encouraged my awareness, knowledge, interest, and work in the field of Indigenous research. These scholars believe that Indigenous research is connected to dismantling the consequences of colonialism and is part of the self-determination process. Smith (1999), Wilson (2008), and Kovach (2009) corroborate the rootedness of Indigenous culture in Indigenous research. To understand an Indigenous research paradigm assumes an understanding of Indigenous ways of being, doing, and knowing. Therefore, an Indigenous research paradigm reveals Indigenous

values and beliefs, and therefore Indigenous life (Smith, 1999; Wilson, 2008; Kovach, 2009). These scholars assert that “Indigenous methodologies tend to approach cultural protocols, values and behaviours as an integral part of methodology” (Smith, 1999, p. 15). Below I provide a brief summary of the written works by Kirkness and Barnhardt (1991), Smith (1999), Wilson (2008), and Kovach (2009) that have impacted my journey in Indigenous research the most.

The first article that inspired my early research years is “First Nations and Higher Education: The Four R’s – Respect, Relevance, Reciprocity, Responsibility”. This article was written in 1991 by Verna Kirkness, a Cree woman from Fisher River Cree Nation in Manitoba, and Ray Barnhardt from Fairbanks, Alaska. From an Indigenous stance Kirkness and Barnhardt (1991) examine the key issues of under-representation of Indigenous scholars in National and International post-secondary educational institutions. The authors state that Indigenous students often feel a conflict between their traditional holistic forms of knowledge and the compartmentalized knowledge taught in academic institutions. Indigenous students’ concerns regarding under-representation are related to academic institutions needing to be more *respectful* of Indigenous knowledge and heritage, being *relevant* to their worldview, and providing opportunities for *reciprocal* relationships, while assisting Indigenous students in exercising *responsibility* over their own education. Moreover, the authors suggest that academic institutions must take *responsibility* for nurturing relationships with students and communities. Kirkness and Barnhardt (1991) point out that when the ‘Four R’s’ are not put into practice, preserved, and/or sustained at an institutional level, the individual Indigenous student struggles. Although this article is over twenty years old, it provides insightful, transformative questions and pursues an inclusive and cooperative educational future for Indigenous students by pushing the limits of western paradigms within the academy. *Respect, relevance, reciprocity, and responsibility* are issues, concerns, and requirements in our present day and future thoughts of transforming the academy and transforming research.

Linda Smith’s *Decolonizing Methodologies* (1999) was a groundbreaking book discussing decolonizing research practices by prioritizing Indigenous people’s worldview. From a Māori woman viewpoint, Smith (1999) critiques western paradigms of research and knowledge and challenges traditional western ways of knowing and researching, by creating a new agenda of decolonization of methodologies for Indigenous research and researchers. Within this new decolonization agenda, Smith stresses the importance of critically analyzing the underlying

paradigm, methods, and ethics that informs research practices. This book provided foundational knowledge for developing a research agenda based in Indigenous epistemology that provides respectful, relevant, responsible, reciprocal relationships with Indigenous peoples and communities. Smith (1999) was the first to inspire me to consider whose stories I privilege within my research. Although from a New Zealand Maori perspective, Smith's arguments remain pertinent in North America. In Canada, considerable work by Indigenous scholars has taken a research perspective similar to Smith's, many of which I have used within this dissertation.

Shawn Wilson's *Research is Ceremony* (2008) is another book that provides foundation in an Indigenous research paradigm and its practical application. Wilson, an Opaskwayak Cree from northern Manitoba, states that research is knowledge and practice that is reflective of the cultural values and beliefs of the researcher. Wilson suggests that relationships define Indigenous life and research, defining who and how we are, as they are our reality. He emphasizes that Indigenous research is the ceremony of maintaining responsibility and accountability to these relationships. Thus, he stresses the value and belief that Indigenous researchers are always accountable to all our relations, throughout our research as well as throughout our lives. Wilson provides the reader with the opportunity to build a connection with his ideas, and with himself by a written dialogue he wrote for his three sons.

Margaret Kovach, a Plains Cree and Saulteaux woman from Saskatchewan, wrote the book *Indigenous Methodologies: Characteristics, Conversations, and Contexts* (2009). This book intertwines the stories of six Indigenous researchers' perspectives on Indigenous methodologies, as well as the author's own understanding. These stories offer guidance to academics, scholars, students, and community members conducting research using Indigenous methodologies. From a Plains Cree knowledge base, Kovach discusses topics such as locating self and culture within the research, using story as a method, decolonizing theory, Indigenous epistemologies, protocol, and ethics. She suggests that Indigenous methodologies are different from western qualitative methodologies because they derive from tribal knowledge. As well, she distinguishes and substantiates that Indigenous knowledge is different than western knowledge. However, Kovach provides the reader with an understanding of the intersections in Indigenous and qualitative inquiry (Kovach, 2009).

In summary, "First Nations and Higher Education: The Four R's – Respect, Relevance, Reciprocity, Responsibility" has given me the original concepts of the Four R's, which allowed

me to shape them in the context of explaining a Métis research paradigm. I give credit to Verna Kirkness and Ray Barnhardt as they have initiated my internal dialogue to describe a research setting from a Métis perspective. *Decolonizing Methodologies* has encouraged me to fight against racism, sexism, and colonization, ultimately beginning my own decolonization agenda within my personal and professional life (Smith, 1999). *Research is Ceremony* provided me with research knowledge grounded in Indigenous research theory, knowledge, and tools with the use of stories. In his book, Wilson weaves his life experiences as stories within the context of his scholarly research; therefore validating story as a legitimate method for knowledge translation (Wilson, 2008). *Indigenous Methodologies: Characteristics, Conversations, and Contexts* inspired me to share my understanding of Métis methodologies rooted in Métis ancestral knowledge. Moreover, Kovach's book provides me with the courage to celebrate and validate my Métis ancestral knowledge by writing about a Métis research paradigm (Kovach, 2009).

In order to explain the collective perspectives of Smith, Wilson, and Kovach and other scholars in an Indigenous research paradigm, I will explain some shared ideas and themes within the literature. First, I will explain Indigenous science because it is the basis of an Indigenous research paradigm. Then, I will discuss specific features of an Indigenous paradigm including the importance of relationships, respect, relevance, reciprocity, responsibility, storytelling, story listening, sharing circles, talking objects, prayer, tobacco offering, dreams, smudging, gift giving, and elder guidance. Please note that I have woven in local, national and international authors, anchored in the pursuit of validating Indigenous knowledge.

Science is the iteration of practices over time which have led to answers, solutions, theories, and processes based on systematic observation. As such, Indigenous science is the methodical process, classification, and method of knowledge production by which Indigenous people acquire and construct empirical knowledge of the natural world (Agrawal, 1995), much like any other system of science. Among many Indigenous people the terms "knowledge" and "science" are often used interchangeably because Indigenous science refers to the entire system of Indigenous traditional and relational knowledge (Cajete, 2000). It relates specifically to the ways in which people come to know everything. Indigenous science encompasses all of the kinds of knowledge that are part of an Indigenous relational philosophy (Cajete, 2000). Smith (1999), Wilson (2008), Kovach (2009), Cajete (2000), and other scholars believe that Indigenous science is contextual, relational, dynamic, and holistic. It is contextual because it is tied to the place and

the people who live in that place. Therefore, Indigenous science is embedded in collective community practices, rituals, and relationships. These scholars agree that Indigenous science is based on experience, and each culture will have a system of knowledge that is diverse and understood by different people in different ways because “science is part of culture, and... how science is done largely depends on the culture in which it is practised” (Iaccarino, 2003, p. 220).

Indigenous science is relational because it is dependent upon the relationships we uphold within our personal and social contexts. On a personal level, Indigenous science is gained through experience and relies upon personal understandings, reflection, and participating in ceremonies and community life, thus leading to self-knowledge. Cajete (2000) states, “Ceremony is both a context for transferring knowledge and a way to remember the responsibility we have to our relationships with life” (p. 70). Indigenous science is gained from social reality through the relationships and connections that individuals have with the living and the nonliving. Indigenous science is based on our personal knowledge and is woven into the identity of a person, tribe, clan, family, community, society, or nation and cannot be separated from their sense of identity (Kovach, 2009).

Indigenous science is holistic because individuals are taught that ‘everything is related’ and focus is on the interconnected web of relationships between humans, animals, plants, natural forces, spirits, and land forms. Cajete (2000) reminds us of the interdependencies of the world such that everything is connected: “Everything is related, that is, connected in dynamic, interactive, and mutually reciprocal relationships. All things, events, and forms of energy unfold and infold themselves in a contextual field of the micro and macro universe.” (p. 75). Accordingly, science is about learning and honouring the past, present, and future; understanding that the spiritual, physical, emotional, and mental aspects of an individual, family, community, and nation are interrelated; and the acceptance in the interconnectedness of all of life (living and non-living). Gaining scientific knowledge means learning continuously within the environment in which we live, work, and play (at home, work, and school, in the community and on the land) and with everything and everyone we are surrounded by (family, friends, Elders, animals, plants, the weather, and dreams) (Cajete, 2000; Snively & Corsiglia, 2001).

As in Western science, Indigenous science relies upon direct observations to calculate and generate predictions of the natural world, community and relationships. Indigenous community members are trained in various specializations, for example the harvesting of herbal

medicines, monitoring regional flora, seasonal and weather explanations, and animal migration patterns. Just like Indigenous knowledge, science honours the importance of direct experience, the interconnectedness of all things, and holism. Indigenous science is dynamic, alive, and ever-changing through the generations because it is a highly contextual system of knowledge (Snively & Corsiglia, 2001).

Indigenous science needs to be acknowledged and advanced with respect, and discussed in context following appropriate protocols, according to the person, tribe, clan, family, community, society, or nation. Summarized features of Indigenous science include:

- Connection to the land
- Holistic
- Relational
- Infinite
- Ancestral (based on teachings and experiences passed on from generation to generation)
- Experiential (individual experiences defines what is truth)
- Based on equality of all things
- Communal
- Oral and narrative based
- Combines using the heart (intuition, emotion) and the head (knowledge, information, memory, experiences)

Indigenous science and knowledge are transmitted through traditions such as legends, songs, stories, ceremonies, and dreams, as well as through activities such as hunting, trapping, fishing, crafts, gathering and preparing foods and medicines, art, dance, and music (Cajete, 2000; Snively & Corsiglia, 2001; Kovach, 2009). Kovach (2009) states, “The sacredness of Indigenous research is bound in ceremony, spirit, land, place, nature, relationships, language, dreams,

humour, purpose, and stories in an inexplicable, holistic, non-fragmented way, and it is this sacredness that defies the conventional” (p.140).

Métis peoples have different experiences of research than First Nations or Inuit, but there is very little information on research methods and ethics specific to Métis peoples. Nevertheless, reading books and articles, attending conferences, and sharing in conversations with local, national, and international Métis and Indigenous scholars and mentors (in no particular order) such as Willie Ermine, Raven Sinclair, Marie Battiste, Maria Campbell, Kim Anderson, Mariah Sinclair, Kim McKay-McNabb, Carrie Bourassa, Cheryl Troupe, Tara Turner, Holly Graham, Rose Roberts, Chelsea Gabel, Janet Smylie, Lynn Lavallee has shaped and reinforced my understanding of a Métis and Indigenous research paradigm. These scholars, colleagues, friends, and family have provided me with a locally (within the prairie provinces of Canada) grounded Métis, Cree, Saulteaux, and Assiniboine knowledge and context of a Métis and Indigenous research paradigm. With these people I have lived their experiences by listening to their research stories of love, success, hardship, pain, frustration, joy, sacrifice, excitement, sorrow and achievement. These lived experiences, along with published research, form the basis of the Métis paradigm for this research project.

All aspects of a Métis research paradigm such as ontology, epistemology, methodology, and axiology are described in more detail below. They are intertwined, inseparable, and in “real life” weaved together in a synergistic way of being, doing, and knowing. I understand and appreciate that on paper many readers would value that I separate the ‘ologies’ in order to have a clear understanding of my research paradigm. However, to separate them would be a different way of being, doing, and knowing – a different paradigm from my own. Therefore, a Métis research paradigm includes features of relationships, respect, relevance, reciprocity, responsibility, storytelling, story listening, sharing circle, prayer, sacred offering, dreams, and smudging, gift giving, and elder guidance. The reader is advised that some Indigenous people follow religious beliefs, customs, and practices. Those individuals may be Catholic or Protestant (for example), and may not follow the Indigenous research paradigm and methods outlined within this document. It is essential to learn, respect, and appreciate the diversity in cultural, spiritual, and religious beliefs of all individuals involved in the research process. Therefore, Elders, community, organizational and individual members, or those involved in the research

process have been consulted to clarify religious and/or traditional ceremonial practices as well as the significance of individual sacred objects and plants.

### ***2.2.2.1 Relationships.***

Many Indigenous cultures within Canada and abroad believe that relationships are a vital part of our lives. Relationships not only involve people and places, but also the earth, sky, sun, moon, stones, plants, animals, spirits, ancestors, and the Creator. Within some Indigenous belief systems there is awareness that all life is inseparably interconnected. The relationships with all creation allow us to learn about ourselves, those around us, and about the physical and spiritual world. Relationships are considered essential because they allow for the transfer of knowledge between individuals and generations (Kovach, 2009; Settee, 2007; Wilson, 2008).

As a Métis person, I have been taught that I must be in a relationship with myself in order to fully participate in relationships with others. Therefore, listening to my spirit and trusting my intuition, values, beliefs, and morals allows me to have clarity, compassion, respect, and honesty with those around me. Engaging in relationship inside or outside of my being is to immerse myself in listening, observing, and awareness of my intuition, participation, and experience in the moment with another person, people, or the environment. Creating and maintaining relationships is the process of personal growth and spiritual well-being, uniting us in a relationship as a family. Therein, we are related in a connection by kinship in the ceremony of reciprocity. We are all connected to each other.

In a Métis research context, I understand and appreciate that part of building relationships with individuals and community is dependent upon being present with community members. Creating space for personal connection by introducing myself, family, extended family, origin of birth, and land of my heritage is of utmost importance. I have been taught that in order to build a relationship I must share my physical, emotional, mental, and spiritual self, which aids in building trust. Trust is maintained in a relationship by being true to my word, keeping my commitments, listening, and being consistent in my actions. Trust is established in what I say, how I verbalize my values, how I talk with others, and what I share about myself.

### ***2.2.2.2 Respect.***

To respect means to “feel or show honour or esteem for someone or something; to consider the well-being of, or to treat someone or something with deference or courtesy” (Bopp & Lucas, 1989, p. 76). Kovach (2009) conveys that fundamental to any relationship in a personal



or research context is the importance of respecting and valuing people and their knowledge. As a Métis woman and researcher, respect is based on creating relationships grounded in connection, communication, transparency, honesty, and trust. Respect can be seen in specific actions and conduct, such as introductions of people involved in the research. This entails not only the name and title or position of individuals, but their families, ancestors, and the land to which they belong. Smith (1999) states, “Respect is a reciprocal, shared, and constantly interchanging principle which is expressed through all aspects of social conduct” (p. 120).

Authors such as Hart (2010), Kovach (2009), and Michell (1999) assert that symbolically, respect can also be shown to research participants by presenting tobacco and a gift to them prior to engaging in research. This offering is a non-verbal agreement that as a researcher I will respect the individual by listening intently, being present, and honoring their presence as a community member and research participant. This symbolic representation shows that I value their time, energy, and wisdom. In a Métis context, many Métis peoples within Saskatchewan may follow Catholic or Protestant religious beliefs. Therefore, the symbolic expression of respect will look differently for these individuals. Elder Maria Campbell supports offering a bag and/or box of dried tea as an appropriate gift in showing appreciation and respect. In a Métis research context, I am reminded that I must be mindful, because Métis people are a combination of two worlds (Indigenous and European) and their spirituality is often influenced by both worlds. If I am unsure of individuals cultural or religious practices I must ask, in order to not offend or insult individual practices (M. Campbell, personal communication, January 10<sup>th</sup>, 2012).

### ***2.2.2.3 Relevance.***

Relevance is based on how connected or valid the research topic is to the individual or community. The research must be based on what really matters to the community. For that reason, creating relationships and partnership with individuals and community members helps to ensure that they have an equal voice and participation in the research. Individuals and community members will help to guide the research agenda, as well as ensure its accuracy through reading and writing aspects of the proposal, methods, results, and dissemination. This helps to ensure that the research is relevant to the community and people that I am working with (Kovach, 2009).

#### ***2.2.2.4 Reciprocity.***

Reciprocity is associated with relationships with all of creation, which includes the earth, sky, sun, moon, stones, plants, animals, spirit helpers, ancestors, and the Creator. It is the understanding that we are connected to all things around us such that we should give thanks to the air we breathe, the land we live on, and the resources that earth has provided for us to sustain our life. Reciprocity is also about the sharing between two individuals in order to connect them together in the acts of giving and receiving, listening and talking, teaching and learning. This relationship can be seen as a sacred ceremony (Hart, 2010; Kovach, 2009; Wilson, 2008).

Reciprocity in a Métis research context may involve sharing stories, life experiences, events, and family history with individuals involved in the research – the act of storytelling and story listening. This is seen as an act of giving oneself physically, emotionally, mentally, and spiritually. However, as highlighted by Michell (1999), reciprocity can also be in symbolic forms such as giving tobacco to a research participant, collaborator, partner, mother earth, and/or the Creator. For religious Métis individuals, presenting a bag of tea may also be used to symbolize the act of reciprocity. As well, a small gift is exchanged as an acknowledgment for a story, interview, or participation in a Sharing Circle or focus group. In essence, ‘you give and you get’ (Michell, 1999).

#### ***2.2.2.5 Responsibility.***

Engaging in research with a community means that I am accepting responsibility and accountability for the impact of the research on the lives of the community members with whom I will be working (Kovach, 2009; Wilson, 2008). Responsibility involves the assurance that I will be able to uphold the integrity that comprises carrying out a research project in the community/organization and individual(s) that chooses to work with me. Wilson (2008) states, “The responsibility to ensure respectful and reciprocal relationships becomes the axiology of the person who is making these connections” (p. 79). Responsibility dictates that I must continually nurture the relationships I have created with individuals and with the community long after formal research has ended. I have a duty to uphold this kinship by maintaining contact with the community and helping if I am called upon.

#### ***2.2.2.6 Storytelling.***

Storytelling has been an essential element of the cultural identity of many Indigenous people around the world. Traditionally, stories were told to teach moral lessons, serve as

warnings, pass down family and cultural teachings, and to keep a record of the past. As well, they created and fostered social cohesion (King, 2003; Kovach, 2009; Settee, 2007; Turner, 2010; Wilson, 2008). Smith (1999) states,

For many indigenous writers stories are ways of passing down the beliefs and values of a culture in the hope that the new generations will treasure them and pass the story down further. The story and the storyteller both serve to connect the past with the future with the story. (p. 145)

Métis storytelling is intergenerational, and Elders and parents told stories to the younger generations to reinforce their identity. Storytelling is used to define Métis people culturally, ideologically, and individually. Stories teach facts and provide lessons about ourselves, our culture, and ways of viewing the world. Métis people use mythology stories called “les contes”, true stories called “les histoires”, and folklore or “tall tales”. Prefontaine and Barkwell (2006) share that “Traditional Métis stories were told at wakes, when men and women worked, in the evening around campfires, at various social gatherings and in homes” (p. 8). Some stories are only told by certain people, thus permission from the original story teller is needed in order to share. These stories are deemed the intellectual property of the storyteller, however, if permission is granted to share, the proper protocol that one must follow is acknowledgement of the original storyteller (Prefontaine & Barkwell, 2006).

From a conversation with Kim Anderson and reading her book titled *A Recognition of Being: Reconstructing Native Womanhood* (2000), I have grown to appreciate and understand that telling a story can provide the opportunity to gain a deeper understanding of one’s experiences of oneself and others around us. Stories have the potential to facilitate people’s exploration of other ways of being, doing, and knowing; and to connect people and events to the past, present, and future. I have been taught that we gain new learning and insight each time we tell and hear a story. In research practices, if the space is created, storytelling is often prompted by an interview, brainstorming session, group discussion, focus group, or a Sharing Circle (Anderson, 2000).

#### ***2.2.2.7 Story listening.***

By listening intently to stories, we have the opportunity to learn from and with each other. Listening requires an active presence, compassion, and openness of the heart, with respect

to the storyteller. Listening to a story can provide the opportunity to gain a deeper understanding of one's experiences of oneself as well as to better understand the storyteller. It is up to the story listener to piece together parts of a story to learn the necessary lessons from the story to apply to one's life or current situation (Archibald, 2008). Archibald (2008) states,

Patience and trust are essential for preparing to listen to stories. Listening involves more than just using the auditory sense. We must visualize the characters and their actions. We must let our emotions surface. As the Elders say, it is important to listen with "three ears: two on the sides of our head and the one that is in our hearts." (p. 8)

Within a research setting, story listening allows me the opportunity to listen with my whole being, body, mind, and spirit in order to comprehend the research collaborators, partners, and participants to my fullest capacity. Respect requires that I listen intently to the stories, wisdom, and ideas of others. I am reminded that stories are a form of medicine and, like many beneficial medicines, they have the potential to fight illness and death (King, 2003).

#### ***2.2.2.8 Sharing/talking circles.***

For many contemporary and traditional Indigenous peoples the circle is a powerful symbol. Many believe that the circular pattern is a reflection of the interrelatedness of all things; all life is affected by other life and everything lives 'in relationship' to one another. The circle represents completeness and connection and that all things move in this circular way and become part of the cycle of life. Knowing all life follows this circular pattern, all ceremony takes place in a circle (Archibald, 2008; Hart, 2002; Kovach, 2009; Settee, 2007). Hart (2002) states,

Ceremonies help establish connectedness and balance and help harmonize a person's physical, emotional, spiritual and mental aspects, not only within but also beyond the individual. These processes can extend to groups of people; by coming together, people can experience being one entity. Sharing circles support this level of connection, balance, harmony and holism. (p. 98)

Sharing Circles provide individuals the opportunity to share their personal stories, experiences, memories, thoughts, reactions, dreams, and feelings. In a sharing circle there is no beginning or end. Participants are neither first nor last. If they seat themselves in a circle

everyone can see each other. The circle places every one as equal. In some contexts, circles begin with a smudging ceremony to rid the circle and people of any negativity. Many Indigenous peoples believe that the spirits of our ancestors and the Creator are present in the circle and guide the process. Honesty, truth, respect, empathy, wisdom, humility, and love are the values inherent within circle processes (Archibald, 2008; Hart, 2002; Kovach, 2009; Settee, 2007).

The circle establishes a safe non-hierarchical place in which all individuals have the opportunity to speak without interruptions. Without judgment or criticism individuals share their stories and listen to others with their whole being: mind, body, heart, and spirit. Communication is often regulated through the passing of a talking piece/object (an object of special meaning or symbolism to the circle facilitator or group). The talking piece/object fosters respectful listening and reflection. The circle usually opens with prayer from the Elder or facilitator (Circle Keeper). Then the Circle Keeper sets out some of the ground rules (in a good way) about the purpose of the talking circle, confidentiality, safety, and asking for additional contributions to the ground rules. Next, the Circle Keeper says a few things about the talking piece and then passes it to the person on the left. Only the person with the talking piece can speak. Participants are not required to speak; if an individual is unwilling to share at the moment they can simply pass the talking piece to the next person. The circle is a continuous process; the talking piece can be passed around the circle many times. An individual can share their views whenever they hold the talking piece. This process is continued until all members feel complete and state that they have finished passing the talking piece/object. The Circle Keeper then closes the circle by acknowledging everyone's presence and thanking them for their contribution, affirming the interconnectedness of everyone present, and preparing participants to return to their lives with a closing prayer. Sharing Circle openings and closings are designed to fit the nature of the particular group and provide opportunities for cultural responsiveness. Some of the valuable lessons learned through a Sharing and/or Talking Circle process are harmony, healing, patience, the ability to listen, understanding and open-mindedness for the views of others. Individuals may also get a deeper understanding of themselves and an appreciation of others (Hart, 2002; Lavalley, 2009).

#### ***2.2.2.9 Talking objects.***

Talking objects are used in many Indigenous cultures around the world. They can be beautiful stones, feathers, or talking sticks, among other things. They are used as a symbolic tool during ceremonies such as Sharing, Talking, Grieving, and Healing Circles (not an exhaustive

list of ceremonies) to honour and respect the thoughts, stories, histories, and memories of the individuals participating in the Circle. The talking object helps individuals to focus any nervous energy, anxiety, or fear by having something in their hands while talking. This creates a sense of safety for them to speak from the heart and share their truth without interruption while other people respectfully listen and hear their message. Everyone in the Circle has the opportunity to hold the talking object and share their thoughts and feelings. The first person given the Talking Stick has the opportunity to share. Once they are finished they pass the Stick to the individual on their left. The next person contributes and then passes it on, in turn. The Talking Stick gradually proceeds around the circle, and every individual is given the space and attention to share from the heart. If an individual chooses not to speak, he or she respectfully hands it to the next person until the item has been passed to everyone participating. The talking object used, aids individuals to speak their truth from the heart (Archibald, 2008).

#### ***2.2.2.10 Prayer.***

Prayer is words spoken aloud or in silence giving praise, love, and thanks, as well as asking for guidance, help, confession, or to request an intervention from the Creator, God, Mother Earth. Some individuals pray each morning upon rising and in the evening before sleeping, giving thanks to the life within and around us (Bopp & Lucas, 1989). Archibald (2008) shares,

The spiritual practice of prayer begins my day and my work. I have learned from First Nations Elders that beginning with a humble prayer creates a cultural learning process, which promotes the teachings of respect, reverence, responsibility, and reciprocity. (p.1)

Along with prayer, a tobacco offering can be given to the Earth and/or the Creator so as to provide guidance throughout the day (Bopp & Lucas, 1989; Kovach, 2009; Sette, 2007). During active research activities with the community, prayer was sent throughout the day to set good intentions for the benefit of everyone. As well, prayer was used to open and close the talking circle. With prayer comes trust in my instincts and inner voice to work with a community in a truthful, honest, respectful, and accountable way.

#### ***2.2.2.11 Offering.***

Indigenous groups across Canada have various spiritual beliefs in sacred objects, plants, and ceremonies. It is essential to learn the local knowledge and beliefs to clarify ceremonial practices as well as the significance of individual sacred objects and plants. For many Indigenous peoples, tobacco, sage, cedar, and sweetgrass are considered sacred plants used as offerings and in ceremonies. Métis peoples typically use tobacco, sweetgrass, sage, and tea (Barkwell, Prefontaine, & Carriere-Acco, 2006). It is given to the earth, the Creator, Elders and/or individuals to show appreciation, respect, gratitude, and reciprocity. An offering can also be as a sign of respect and appreciation for everything that the earth has to offer. Offerings to the Creator are often made for the intention of hearing, seeing, speaking, and feeling the good in ourselves and those around us. When we make an offering, we communicate our thoughts and feelings as we pray for ourselves, our family, relatives, and others. Given the situation and if the offering is made to an individual, it can also include blankets and monetary gifts. Within a research context, making an offering to a research participant allows the researcher and the individual or community to become involved in the research process as equal and respected members. It is an act of reciprocity, showing respect for an individual or community's willingness to share their knowledge. It is an agreement to speak and share the truth as we know it (Michell, Vizina, Augustus, & Sawyer, 2008).

#### ***2.2.2.12 Dreams.***

Many Indigenous peoples believe that knowledge can come from dreams in the same way knowledge can come from experiences in wake time. Dream time provides the opportunity for an individual to gain a clearer view on relationships with people and the land, and to offer some answers to questions. It presents insight into oneself and a means for self-exploration. A dream unifies the body, mind, and spirit (Kovach, 2009).

#### ***2.2.2.13 Smudging.***

Smudging is a ceremony where certain herbs such as sage, cedar, tobacco, and/or sweetgrass are burned in a shell or in a bunched bundle. There are many purposes, reasons, ways, and intentions for smudging (Settee, 2007). My intent in smudging regards creating and maintaining relationships based on respect, relevance, reciprocity, and responsibility. What I have been taught is to rub or brush the smoke of a specific herb over my head, heart, ears, eyes, mouth, and entire body to think, feel, hear, see, speak, and walk with good feeling and good

intentions. Intentions/prayers of that specific day and journey of the past, present, or future are said to rise with the smoke and are carried to the Creator. Settee (2007) explains that smudging

...helps us to purify our thoughts, actions, and deeds. Smudging insures that our actions will be done with a good heart, a good mind, and gratitude for the gift of living another day. This ritual also reminds us to perform our duties for the betterment of humanity. (p. 11)

#### ***2.2.2.14 Gift giving.***

In many Indigenous cultures the act of gift-giving is a ceremony of thanks, friendship, respect, gratefulness, and reciprocity. Gift giving is also an act of honouring an individual for their knowledge, wisdom, guidance, and presence (Roberts, 2005; Settee, 2007). I have been taught that a gift can be anything including a blanket, tobacco, tea, jam, and/or money. The specific gift is personalized given the appropriate situation and cultural and religious backgrounds of the individuals involved.

#### ***2.2.2.15 Elder guidance.***

Elders are generally older men or women members of an Indigenous community who hold positions of influence because they are appreciated as the carriers of memory and life experiences. They are understood as the keepers of wisdom, knowledge, and history. Volume Four of RCAP (1996) titled, “Perspectives and Realities”, states that “Elders, Old Ones, Grandfathers and Grandmothers don't preserve the ancestral knowledge. They live it” (p. 103). Elder roles in the community are to teach cultural customs, tradition, language, knowledge, ceremonies, beliefs, values, and lessons using storytelling and through role modeling and mentorship of traditional practices. Both male and female Elders have many common roles and responsibilities, however, it is acknowledged that they have different and distinctive life experiences and therefore their roles and responsibilities may be different in certain situations (Indian and Northern Affairs Canada, 1996b; Settee, 2007). Within Indigenous communities, Elders are defined by the community members. They believe that, “While Elder is a distinguished title, traditional Elders do not seek status; it flows from the people. Communities elevate their Elders, but the Elders keep their feet planted firmly and humbly on the ground” (Indian and Northern Affairs Canada, 1996b, p. 104). Those that seek guidance from an Elder must follow proper protocol of respect and reciprocity, therefore must provide a tobacco offering



for information and/or spiritual guidance. In some circumstances, gifts, meals, cups of tea and/or providing honoraria are also used to demonstrate the importance and respect of the Elders' knowledge, guidance, time, and energy (Indian and Northern Affairs Canada, 1996b).

Different Indigenous groups across Canada use various terms to distinguish the wisdom of their elderly in their respective communities. Within the Métis Nation, the title "Senator" is given to Elder males and females in recognition of their knowledge, awareness, and life experience. This is a political designation and very different from community Elders or Old People. The designations of Elder, Old People, and Senator depends upon the community that you are in. The terms Grandmother and Grandfather are also used to acknowledge the Elder role as teachers of the culture, language, and knowledge in the community (Campbell, 2012; Indian and Northern Affairs Canada, 1996b).

In her book, *Indigenous Methodologies: Characteristics, Conversation, and Contexts*, Kovach (2007) refers to the researcher's inward and outward grounding as "Researcher Preparations" (p. 27). She states that research preparation involves the researcher looking within herself to find her own belonging. This process requires inward reflection by seeking out Elders for guidance, as well as honouring dreams, attending ceremony, and praying. Kovach (2007) states,

We need to open ourselves to those teachings and then give ourselves time to integrate them so that we can be of use to our community. This requires preparation by the researcher, something that is unique to each individual. It is a process that can never lend itself to a check-box, universal approach, rather it is personal work that must be done by the researcher in conjunction with her world (inner and outer). (p. 50)

I have been taught by my Métis community that I have an ethical responsibility to nurture and maintain the relationship that is created with the community engaging in this research process. My research incorporates Métis values, ways of life, and beliefs within its design, methods, analysis, and ethics. My intent is to create a bonded relationship within my methods and research collaborators and partners based on respect, relevance, responsibility, and reciprocity. This connection is bound by responsibility and accountability. Wilson (2008) states,

...research is a ceremony. The purpose of any ceremony is to build stronger relationships or bridge the distance between aspects of our cosmos and ourselves. The research that we do as Indigenous people is a ceremony that allows us a raised level of consciousness and insight into our world. (p.11)

Currently, there are shifts in the realm of health research and many researchers are actively working to ensure that research is respectful, inclusive, empowering, and culturally appropriate and sensitive. Moreover, Indigenous scholars are promoting research approaches and processes that are based on their culture and worldview (Smith, 1999). Health researchers have the opportunity to choose a research paradigm and methods, whether that is premised on power, control, exclusivity, and objectivity or based on storytelling and story listening. As a Métis health researcher rooted in Métis knowledge, I choose to work within and with communities, organizations, faculties, and individuals in a way that empowers, celebrates, and ignites relationships.

### **3.3 Intersections and Collaborations**

In order to address the divergences between health status and disparities among our Métis communities, we need to ensure that the health and research paradigm and methods are grounded in Métis philosophy, worldview, and approach. Understanding health and wellness in Métis communities is critical in addressing health and health care disparities among our Métis population, therefore any research involving Métis peoples' health needs to be rooted in the community (Anderson & Smylie, 2009). Métis peoples have a right to achieve health and wellness, and a right to maintain and use their own health definitions, beliefs, and practices in pursuit of our right to health. The United Nations (2012) states,

Indigenous peoples have the right to promote, develop and maintain their institutional structures and their distinctive customs, spirituality, traditions, procedures, practices and, in the cases where they exist, judicial systems or customs, in accordance with international human rights standards. (p. 12)

Health research requires collaboration among institutions, organizations, and stakeholders, dedicated to the health needs of Métis people. As well, collaboration is needed among Indigenous and western research paradigms and methods. This research proposes to

explore the space where Métis thought and science meet western thought and science. It is grounded in the belief that a synergistic collaboration between Métis and western paradigms and methods is required to address Métis health disadvantage in Canada. Therefore, creatively merging research paradigms and methods, individuals, sectors, and institutions may help Métis communities to conceptualize and organize sustainable solutions to address health issues of importance.

A heuristic understanding of problem solving suggests that it is about trial and error (Straus, 2002). One way of looking at health and illness may be to locate western science and its methods within a Métis paradigm, privileging a Métis paradigm while uniting western and Métis research methods. Within this research project, a system dynamics (western) method is used to explore TB in Métis communities. TB was the chosen problem to explore, as a means to begin community conversations: an entry point to flush out Métis determinants of health and well-being influencing this highly infectious disease. TB was also selected because Métis peoples experience disproportional rates of TB infection compared to non-Indigenous peoples in Canada. TB is heavily influenced by the social determinants of health, thus infiltrating populations that experience racism, discrimination, poverty, lower education levels, overcrowding, poor water quality, and food insecurity (to name a few). For these reasons, understanding TB in Métis communities requires culturally appropriate, responsive, and holistic research paradigms, methods, and ethics. Respectively, using a system dynamics paradigm and methods within a Métis research paradigm and methods allows me to situate Métis values, beliefs, and practices at the core of my research agenda, as well as position Métis peoples and their ways of being, doing, and knowing into the academy and into the field of health research. Therefore, highlighting a local Métis understanding of TB rather than broad Indigenous understanding with and for Métis peoples is key to this research. In the end, I aim to discover if my attempt at blending paradigms and methods was culturally appropriate, relevant, respectful, meaningful, and advisable, consequently providing ample lessons learned.

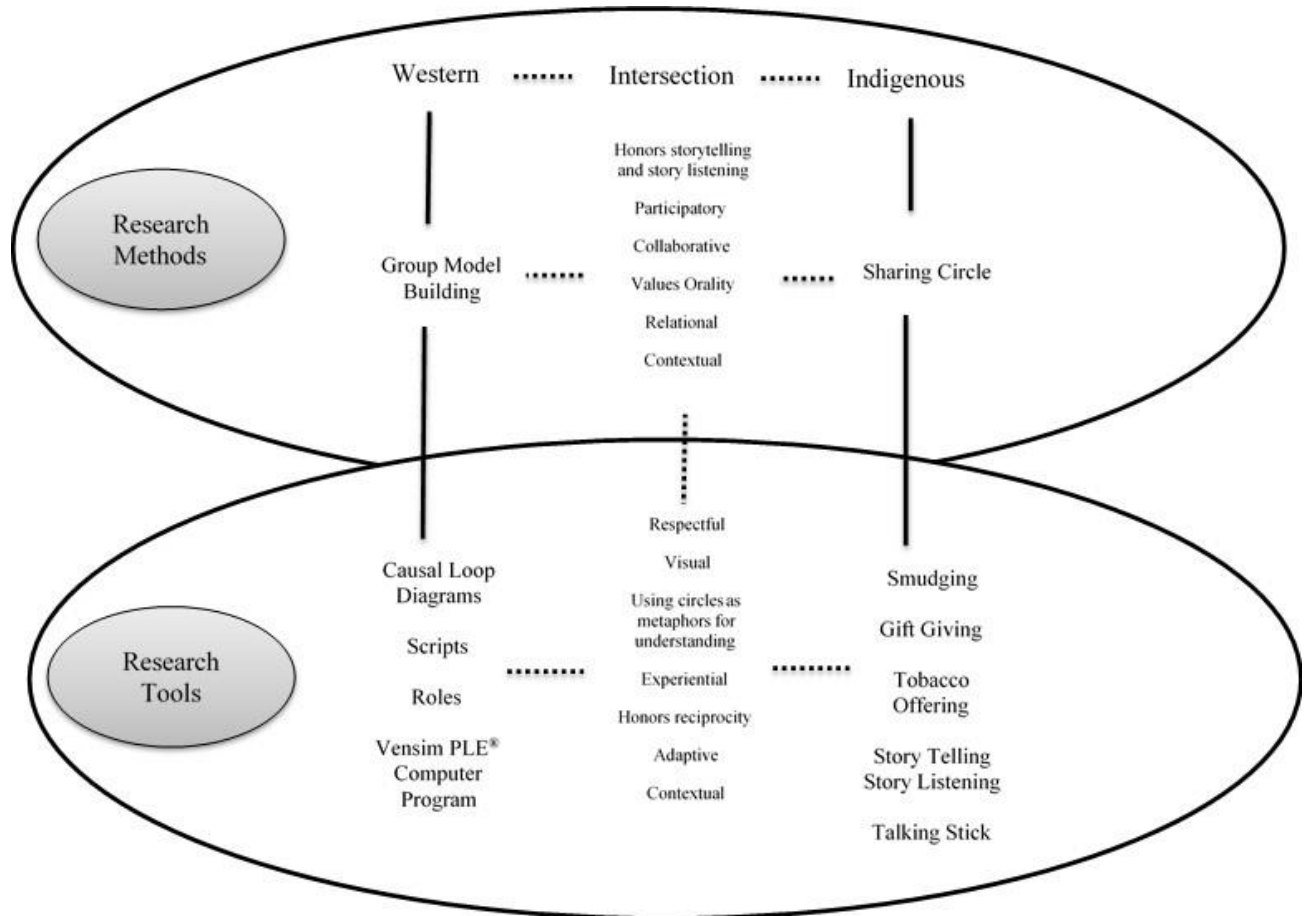
All the same, it is the researcher's assumption that the system dynamics modeling paradigm has the potential to pair well with a Métis research paradigm. Fundamentally, system dynamics promotes a holistic perspective on systems/problems, and stresses the importance in understanding the relationships between parts of a system, rather than the parts themselves. All parts that make up a system are not independent of one another; they are interdependent (Homer

& Hirsch, 2006). Within this research project, system dynamics has the ability to help individuals develop an understanding of the dynamic forces that surround TB, along with the organizations and communities that live with and respond to this infectious disease. Essentially, system dynamics has the potential to help individuals and organizations to focus on the connections and interactions between the physical, political, cultural, educational, environmental, and social conditions that contribute to TB distribution within the Métis population. TB cannot be reduced to any one factor influencing the disease; rather it is the interaction between all the social determinants of health driving the disease dynamics. Therefore, system dynamics and its diverse methods (such as Group Model Building) can aid in providing a holistic understanding of the factors influencing TB in Métis communities. Fundamentally, systems dynamics is in alignment with a Métis research paradigm in that it values holism and interconnections (all things are related).

There is much opportunity for health research to contribute to improving health status and research outcomes for Métis populations. As researchers and community members, we need to explore ways of increasing the involvement of Métis people and communities in health research to create long-term solutions to improve the health status of Canada's First Peoples. This calls for new and old paradigms, methods, and approaches to collaborate and tackle how the determinants of health syndemically interact with infectious and chronic diseases among Métis peoples of Canada. By drawing on a Métis health and research paradigm, as well as Western science and knowledge such as system dynamics and GMB, this research proposes to undertake population health research that is meaningful, useful, ethical, responsible, and respectful for Métis communities.

## Chapter Four: Relational Roots

In Chapter Four, I provide detailed information on how I blended Métis and western methods and tools to produce a Métis GMB workshop. Figure 10 is a visual representation of the topics that will be discussed within this chapter.



**Figure 10. Blending methods and tools.**

*(Figure created by A. LaVallee using Microsoft Word)*

A Métis research paradigm is grounded in an Indigenous relational philosophy and based on the concept that ‘all things are related’. Research is never a process free and isolated from the researcher, because everything is related. With Indigenous ways of knowing, objectivity is neither pursued nor considered necessary. Part of the researcher’s journey is knowing and honouring the relevance of connections between oneself, the research participants, and the research topic. Relationships between the researcher and the research are not ignored or

separated because relationships are the foundation of an Indigenous research paradigm (Wilson, 2008). As such, I intentionally include a narrative style of writing (storytelling), relying upon the first-person voice to aid in illuminating the importance of relationships. Within the narrative I also blend a structured and third person style of writing to explain the step by step knowledge collection plan, clarifying participant recruitment, consent processes, the GMB workshop, evaluation, and knowledge storage procedures.

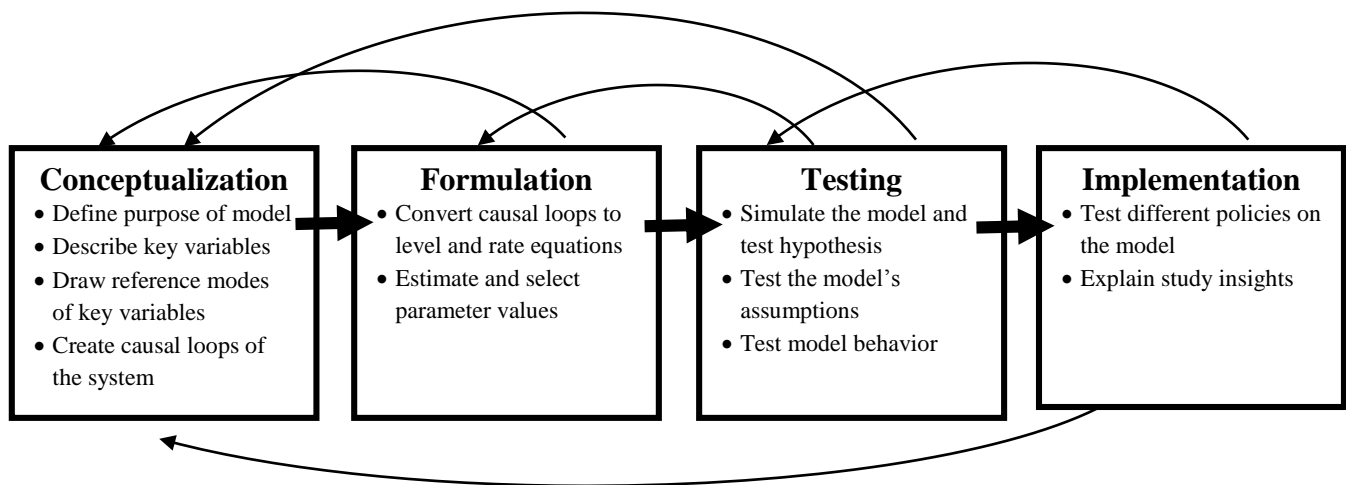
#### **4.1 A Relational Method: Group Model Building**

This research project began when I had a chance encounter with Tara Turner (at the time MN-S Director of Health). I have known Tara for many years, and during a meeting I shared my PhD research proposal regarding applying system dynamics thinking to TB in Métis communities in Saskatchewan. Tara expressed her excitement and suggested the MN-S Health Department as the community partner. I agreed and Tara submitted the research proposal to the MN-S Minister of Health for authorization. One month later, official approval was granted for the MN-S Health Department to engage in the research.

At that time, the research was at an idea level and together Tara and I worked to flesh out how we were going to engage in this research project and apply systems dynamics thinking and methods in a Métis cultural context with Métis peoples. Within system dynamics, the methods utilized in modeling problems are diverse. A model can be built independently by a system dynamist researcher, or collaboratively with a group of stakeholders/participants in a process referred to as group model building. The choice of which tools to use varies according to the needs of the client and/or group. Tara and I agreed that the most appropriate system dynamics method to use for this research project is GMB, using qualitative activities and focusing on the conceptualization stage of a systems dynamics modeling approach. These are explained in more detail below.

System dynamics has numerous tools, steps, and methods to help stakeholders visualize, understand, and interpret systems problems, and one way is through model building. Systems problems can be represented through models, diagrammatically, graphically, mathematically, and/or through verbal description of our mental understanding (mental models). A model is a basic representation of an actual system at a given point in time and space; it is a simplification of reality created to promote understanding (Vennix, 1996).

Although modeling approaches and objectives are diverse, there is a general set of processes to follow. Many experts within the field of system dynamics have described and organized system dynamic modelling in a number of stages that range from four (Albin, 1997), to five (Sterman, 2000) and more. The activities throughout the different stages remain fairly consistent among these authors, even though the ways of grouping the activities differ somewhat. Albins' (1997) model building approach was chosen for this study because she provides clearly defined steps that are transparent and resonate most closely with the intentions of this research project. Figure 11 outlines her stages, which include conceptualization, formulation, testing, and implementation, and the specific activities associated with each (Albin, 1997, p. 6).



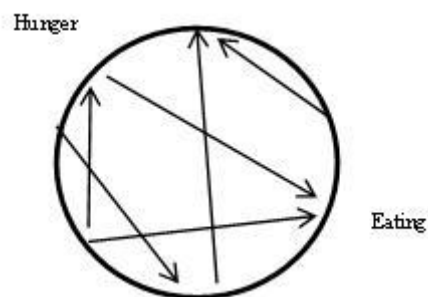
**Figure 11. Stages of model building.**

*(Figure created by A. LaVallee using Microsoft Word adapted from "System Dynamics, Systems Thinking, and Soft OR" by Forrester, 1994. Retrieved from <http://clexchange.org/ftp/documents/Roadmaps/RM7/D-4405-1.pdf>)*

Ultimately, the goal in following these steps is to construct a model to help understand the forces that have created the problem and how it has been sustained. Early stages of the model employ largely qualitative research activities, middle stages are quantitative, and the final stage draws on both. However, embedded in each step are opportunities to diagrammatically, graphically, mathematically, and/or verbally (mental models) represent, study, and transform the system problem. An individual or group may choose to follow all stages until completion depending on their specific needs, or narrowly focus on one stage (Albin, 1997). Albin (1997) proposes that the lines between the stages are fluid and repetitive, such that a system dynamicist

or a group may return to the previous stage to incorporate new information or insights after completing a step. Engaging in one or all steps is dependent upon the needs of the client, organization, or GMB project. Each of these stages represents significant research effort. The scope of this study was defined as completion of the first stage, conceptualization, anticipating that the findings will apply to a series of future studies that would follow the remaining stages. The activities Albins (1997) includes in the conceptualization stage are: defining the purpose of model, describing key variables, drawing reference modes of key variables, and ultimately creating causal loops of the system. Causal loops are one way of diagrammatically representing a problem in the context of a system, and they involve capturing stakeholder stories, perceptions, experiences, knowledge, expectations, and conclusions about a systems problem (Albin, 1997). These are referred to as mental models (Sterman, 2000). Because there is no mathematical computation involved in the conceptualization stage, the term, “qualitative modeling” is applied to these activities (Albin, 1997).

This research drew exclusively on the mental models of TB experiences shared by the research team and Métis participants. Individual mental models were expressed in collectively constructed connection circles and causal loop diagrams. Connection circles are a qualitative view of a system to aid in an increased understanding of dynamic systems. They are visual tools that show the relationships among variables in a story. Drawing this diagram helps individuals to practice identifying key variables and how they relate to each other. As seen in Figure 12, the connection circle shows how hunger is connected to eating.



**Figure 12. Connection circle.**

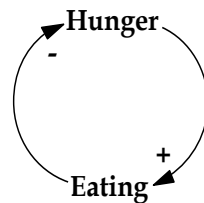
*(Figure created by A. LaVallee using Microsoft WordArt)*

In a connection circle, the key components of a system that changes over time are identified and placed on the outside around the circle. Arrows are drawn from one element to



another, to trace the cause and effect relationships and expose feedback loops (Ponto & Linder, 2011).

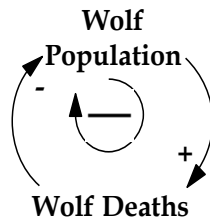
Circles of causality, also known as causal loops and feedback loops, consist of arrows connecting variables in a way that shows how one variable affects another over time. They are circular paths of cause and effect. These diagrams can show the causal relationships between different parts of the system and represent the behaviour as it evolves through time. Creating these diagrams allows individuals or groups an opportunity to see feedback processes within a system that they may not have known existed. Drawing a system diagram is a good way to show how a change in one factor may feedback and impact another factor, which will then affect the first (Sterman, 2000). Figure 13 shows how the increase of a person's hunger (known as the factor or variable) is linked to (shown by the arrow) a person eating (known as the factor or variable) more food indicated by the plus sign (+); an increase in the food eaten will reduce hunger.



**Figure 13. Circle of causality.**

*(Figure created by A. LaVallee using Vensim® PLE)*

Circles of causality help to make explicit the long-term impacts of change. For every action, a reaction will be generated, called a feedback. A system can have reinforcing and balancing feedback loops. Feedbacks create and resist change and have the ability to produce future changes. A balancing feedback loop, shown in Figure 14 tends to work against or resist any small change in any of the variables in the feedback loop. They maintain stability while reducing change (i.e., keep things in equilibrium) (Sterman, 2000).

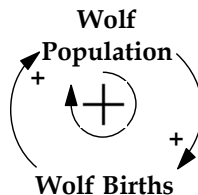


**Figure 14. Balancing feedback loop.**

*(Figure created by A. LaVallee using Vensim® PLE)*

For example, if there is an increase in the number of wolf deaths, the wolf population will *decrease*. A negative sign (-) indicates this behaviour. An increase in the number of wolves in a pack (Wolf Population) means that a larger number of wolves will die each year. A plus sign (+) indicates this behaviour. These two relationships work in concert to form an overall negative feedback loop in the system.

A reinforcing feedback loop, shown in Figure 15, tends to reinforce small changes in any of the variables in the feedback loop, resulting in vicious cycles or virtuous cycles (i.e., exponential growth), depending on conclusions towards the variables involved, and the direction of the original change (Sterman, 2000).



**Figure 15. Reinforcing feedback loop.**

*(Figure created by A. LaVallee using Vensim® PLE)*

In the example provided above, we consider two system variables: Wolf Population and Wolf Birth. If there are more births of wolves (+), over time the wolf population would increase (+). Also, if the population of the wolves were to increase, the births per year would also increase. Hence, the number of births drives the population and the population drives the number of births – A positive feedback.

The process of model building has been commonly applied in a consultant/client arrangement, with the process typically entirely accomplished by one or more modellers who are experts in the system dynamics field. However, since the 1980s a *participatory* system dynamics method called group model building has been introduced (Ponto & Linder, 2011). Group model building (GMB) facilitates an inclusive, participatory, and collaborative effort of stakeholders<sup>20</sup> in understanding and dealing with dynamic problems. GMB differs from other system dynamics methods in that a model is created in close interaction with a group or team of key participants. This method emerged from the system dynamics community as a process for system dynamicists to work with a group of diverse stakeholders with various perceptions of problems. The system dynamics community believes that stakeholder involvement means a more accurate understanding of a problem, thus leading to a more accurate refined picture/model of the problem. As well, it is thought that the GMB process enables stakeholders to create, support, implement, and adhere to the policies required to change the problem. Stakeholder involvement is therefore viewed as crucial at every stage of the model building process (Vennix, 1996).

It was not until the late 1970s that clients were involved in any process of model construction. GMB first emerged in the Netherlands in the 1980s when Dr. Jac Vennix started experimenting with the involvement of client groups in the process of model construction in a series of projects. Dr. Vennix, a professor of research methodology at the Department of Management of Nijmegen University (Netherlands) devoted much work on developing methods using system dynamics with groups (Vennix, 1996). His 1996 book defines GMB as,

...a process in which team members exchange their perceptions of a problem and explore such questions as: What exactly is the problem we face? How did the problematic situation originate? What might be its underlying causes? How can the problem be effectively tackled? (Vennix, 1996, p. 3)

Vennix (1996) suggests that GMB presents opportunities for individuals to acquire knowledge and skills from approaching and viewing the cause and effect of problems in a multifaceted, interconnected system rather than in a linear manner. He states that the GMB

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<sup>20</sup> Stakeholders are individuals, groups, or organizations who have an influence on or will be influenced by a project or its outcomes. They are individuals who may be affected by decisions as well those that have the authority to make decisions such as managers, supervisors, front line workers, and community members (Vennix, 1996).

method has the potential to support group learning, improve understanding of a problem, change mental models, and give insight into the wholeness of a problem. Therefore, utilization of this method helps to provide an equal arena for stakeholder discussions to collaboratively create a picture (model) of the factors that influence a problem.

GMB has been developed as a highly structured, facilitated method with tools for collaborative teamwork practices. These tools include the creation of roles and scripts that aid in a GMB session/workshop agenda. The tools aim to explicitly include community members/stakeholders in the design and facilitation of a GMB session/workshop by engaging them directly in one or more of the defined scripts and roles. Since the late 1990s, a burgeoning body of literature has supported system dynamicists on the 'how to' of GMB. Richardson and Andersen (1995) were the first to outline a GMB method using teams of individuals. Their early work focused on creating a group modelling team by defining various interacting roles within a GMB session/workshop. They suggest the following five roles: (1) the gatekeeper, a member of the community or stakeholder group who serves as a connection between the modelling/research team and the community members/stakeholders involved in the process; (2) the facilitator/knowledge elicitor takes on leading group discussions and helps to monitor the group process; (3) the modeller/reflector is the individual creating the model from the group discussions, as well reflecting back stories heard during the discussions for further clarity; (4) the process coach is responsible for the creation of the overall GMB session/workshop agenda and changes to the agenda and; (5) the recorder makes a written account of all the discussions and decisions being made by the group. These five roles can be filled by five individuals or an individual can have multiple roles.

Andersen and Richardson (1997) also developed scripts that help to build an agenda for a GMB session. Scripts are detailed written explanations of the role, activity, setting, and sequence of events that are expected to occur in a GMB session/workshop. They introduce various scripts that schedule a GMB session from start to finish, such as planning for a group model building conference, scheduling the day, various group model building tasks, and closing a GMB session/workshop. Hovmand et al. (2012) state that scripts are useful collaborative tools that allow individuals to understand, create, and alter small-group exercises to address any cultural and political barriers that damage collaboration within the GMB session/workshop. These authors believe that "documenting scripts helps the designing of GMB sessions with diverse and

frequently marginalized stakeholders and can thereby be an important tool for effective collaborative planning” (Hovmand et al., 2012, p. 180). Therefore, all individuals involved in a GMB workshop will facilitate one or more of the scripts throughout the duration of the session.

#### **4.2 Relational Groundwork: MN-S Research Team**

Creating, maintaining, and honoring relationships during this research was a process of discovery. My focus continually shifted between the research process and outcome. I found myself constantly sharing thoughts and feelings and exploring the relationship between myself (the researcher) and the co-researchers (collaborators and partners) as it unfolded. I kept a journal that consisted of my thoughts, feelings, and ideas relating to the development of this research project and relationships. This journal also acted as my field notes, documenting any conversation, observations, and mentorship I may have had. As a researcher, it was necessary to accept my humanness, including my emotions, interests, values, politics, frailties, and strengths. I also needed to have a firm grounding in my cultural background, to allow myself to bring my whole being into all encounters. My aim was to always be authentic, transparent, and direct in my research encounters, and at the same time remain humble. Below, I share our story of how the MN-S Research Team came to be, and how our project unfolded.

A team of individuals are required for the GMB method, so Tara and I began to explore potential Métis and non-Indigenous individuals to invite as Research Team members. We discussed the importance of finding individuals who were in alignment with the goals and objectives of the MN-S Health Department, Métis health research and GMB. We desired individuals that met some of the following criterion:

- some understanding of a Métis culture and worldview
- willingness to learn about and from Métis health research ethics and methods
- willingness to learn and understand system dynamics and GMB concepts
- willingness to learn and understand Métis health challenges
- an ability to understand research from a mainstream scientific perspective and from a Métis perspective
- the ability to communicate the research to audiences in a non-technical way
- an ability to listen and communicate effectively

Through my studies in the College of Medicine, Department of Community Health and Epidemiology I had attended classes with two individuals in the Masters of Public Health Program that I became quite familiar with and knew had experience in system dynamics. Both individuals communicated and demonstrated great passion for improving health outcomes for individuals and communities, and enthusiasm for system dynamics, GMB, understanding the social determinants of health, and health policy. I felt that both Karen Yee and Dr. Irini AbdelMallek would be a perfect fit for our MN-S Research Team. Engagement with Karen and Irini included scheduling meeting times that were approximately three hours in duration. These meetings, which included going for coffee, going for a walk, meeting at their office, and at my home, were about sharing in the vision, intentions, and goal of the proposed research, as well as to share our personal lives. This process was important in establishing relationships, relevance, reciprocity, and respect. Karen and Irini both subsequently agreed to be part of the MN-S Research Team.

Tara chose to invite the new MN-S Health Department Associate Director, Cheryl Troupe, to be part of our research team. Cheryl has significant Métis community and research involvement, and is grounded in Métis ways of being, doing, and knowing – socially, politically, educationally, and culturally. After review of the proposed research, Cheryl accepted the offer to be part of the research, completing our team. Our project was therefore comprised of a partnership with the MN-S Health Department that included Dr. Tara Turner (Director of Health) and Cheryl Troupe (Associate Director), and two volunteer research collaborators, Karen Yee and Dr. Irini AbdelMallek.

Because our team had such diverse professional, educational, and cultural backgrounds we needed to establish relationships with each other, as a research team, based on reciprocity, respect, and relevance. Kovach (2009) suggests, “Giving back does not only mean dissemination of findings; it means creating a relationship throughout the entirety of the research” (p. 149). To create a cohesive and consistent research team, to allow for personal and professional relationships to build, we decided to schedule two-hour weekly meetings over a seven month period. During these meetings we had to be precise in our intentions and goals, as well as create a relational space that honoured our social connections. After we submitted our ethics application we took a one-month break until we received a response from the ethics committee, after which

we met for 2-4 hours twice a month for another 3 months as we prepared for the GMB workshop.

We held our weekly meetings in my house. The MN-S Health Department suggested the move away from their institutional structure to allow them to have dedicated time and uninterrupted effort for our relational processes. The house setting provided a friendly, open atmosphere that was removed from their institutional parameters, designations, and authority. As a team we acknowledged that when we are at work or school, we may become employees and/or students first, and then individuals; and when we are in community, we are individuals first, and then employees and students. Sitting on a couch listening and watching a power point presentation on the television was very different than sitting in a board room in an agency or institution. Listening, laughing, learning, and sharing were transformed into a relevant relational context. How much, and what we shared, was very important in bridging our diverse cultural ways of being, doing, and knowing as a collaborative and cohesive team.

For many of our meetings, each team member took turns in the lead role of educator/facilitator. Facilitation was the act of guiding the meeting process to respect people's time, create opportunities for equal participation, and to achieve the meeting goals. The first task on every agenda was touching base through sharing our perspectives, thoughts, and experiences personally and/or professionally. Each week I emailed a meeting agenda to each individual that highlighted the meeting topics. Co-facilitation of the meetings created a power shift, allowing me (as a student researcher) to learn from others and respecting the diverse areas of expertise and experience in the group. Sharing food and drinks at each meeting was a simple yet important gesture. Based on my cultural teachings, I was taught that sharing food and drinks nurtures our emotional, physical, and spiritual beings. Food preparation and sharing is an expression of the symbolic importance of fostering good relations and creating a sense of community. I have been taught that the act of making and sharing food can be seen as a ceremony; it is a welcoming ceremony and bonding ceremony. Thus, each research partner and collaborator volunteered to bring food from their respective cultural backgrounds. Each consecutive week, the team member that brought food would also provide a story, teaching, and/or meaning behind their food or culture.

Scheduling time, our casual meeting location, shared facilitation roles, as well as sharing our expertise, food and drinks, were the relational foundation for the MN-S Research Team in

creating cohesive, trusting, and transparent relationships. This relational work facilitated our co-creation of formal documentation outlining our research methods, ethics, knowledge translation, and dissemination. This documentation, detailed below, includes a collaboration agreement, a memorandum of understanding (MOU), and a university research ethics application.

#### **4.3 Relational Ownership: Creating Capacity Documents**

The MN-S Health Department has experience engaging in research relationships with university departments and community researchers. However, they have never created a research relationship with a graduate student. As such, the MN-S Health Department stressed the importance of creating process documents that identified the mutual benefits of research projects to all parties engaged, such as ownership of knowledge, materials, and publications to be used with future graduate students. These included a collaboration agreement, memorandum of understanding, and the University of Saskatchewan Behavioural Research ethics application.

Our collaboration agreement is a research contract between the MN-S Health Department<sup>21</sup> (Tara and Cheryl), the research collaborators (Karen and Irini), and myself. The objective of writing our collaboration agreement was to clarify our research goals, objectives, and the responsibilities of each member of the MN-S Research Team. As the student researcher, I took the lead in creating the agreement, and once a rough draft was created, I emailed each member of the MN-S Research Team a copy for amendments. At our weekly scheduled meetings, as a team we would discuss and decide on the revisions. Once we were all in agreement and a final version was created, each member of the MN-S Research Team signed and received a copy of the document (see Appendix A).

For this research project the MN-S Research Team was both researchers and research participants; therefore it was important for us to outline our dual roles in a memorandum of understanding (MOU). Our MOU is a written agreement that helped us form a common understanding of the working relationship between the research collaborators, partners, and student researcher (see Appendix B). The MOU was created to recognize the MN-S Research Team as co-researchers with positions of authority similar and equal to the student researcher.

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<sup>21</sup> The process for entering into this type of agreement would have been different at the executive or ministry level, if it was not with a student. Tara and Cheryl would not have signed the document; it would have been the MN-S Ministry of Health. It was the Ministry of Health's decision to allow Tara and Cheryl to partake in the research.



We identified that as co-researchers, the MN-S Research Team had input into all stages of the research process including:

- The research proposal
- Protocols
- Procedures and ethics
- Knowledge collection
- Analysis and interpretation stages of the research.

We also included specific co-researcher activities that included planning and co-writing the ethics application, organizing and facilitating the GMB workshop, and assisting with the participant storytelling and listening evaluation of the GMB workshop. Additionally, the MOU document outlined the shift in roles from the co-researcher role of the MN-S Research Team into that of research participants. The MOU is the understanding that, as a group, the MN-S Research Team will be asked to evaluate the GMB method for the conclusion of the project. As the student researcher, I took the lead role in creating the MOU and once a draft was created, I emailed the document to each team member for revisions. This document was also presented at our weekly meetings for discussion and revision. Once a final draft was completed, each MN-S team member signed and received a copy. Creating the MOU was a practice of transparency, trust, respect, responsibilities, and accountability between all members of the MN-S Research Team.

All research collaborators and partners of this project held positions of authority similar or equal to the student researcher and were therefore co-researchers. This meant each member of the MN-S Research Team had full responsibility for taking part in all stages of the research process. Finally, we turned to our ethics application. As the student researcher I created a working draft of the application. The ethics application went through many drafts, and took three months to complete. Six weeks later, in November 2011, we received approval. We shifted into planning our GMB two-day workshop and participant recruitment.

The steps taken to establish our MN-S Research Team required considerable time. The MN-S Health Department now has a solid research cultural and ethical foundation for working with future graduate students. All documents such as the collaboration agreement, MOU, and

ethics application are the property of the MN-S Health Department, and can be used and altered for future research relationships.

#### **4.4 Relational Influences: Seeking Guidance**

The GMB methodology has evolved over the years, largely in the United States, into a developed set of tools essentially providing a template for system dynamics researchers or consultants to follow. I am not aware of GMB methodology in any Canadian studies, and certainly not with any Indigenous peoples or communities. Further, the dynamics of TB in Métis communities has not been conceptualized from a Métis perspective. As a Métis researcher, I had many questions about the appropriateness of using GMB with Métis peoples and within Métis communities in Canada. Nevertheless, I was convinced that the GMB methodology could be the bridge between a Métis health and research paradigm and a western system dynamics paradigm.

As we began to plan the two day GMB workshop we struggled to establish congruency with a Métis health and research paradigm. Because the MN-S Research Team had no experience planning and facilitating GMB projects, I initially sought the support of my co-supervisor, Dr. Peter Hovmand. Through video conferencing with Dr. Hovmand, I shared our team's concerns with providing a culturally relevant and respectful causal loop exercise for our workshop. Dr. Hovmand shared stories of his experiences facilitating GMB exercises with individuals (adults and children), communities, agencies, and countries of different social, economic, spiritual, and cultural backgrounds. As well, he emailed various GMB workbooks, exercises, and activities that he had conducted in the past (P. Hovmand, personal communications, December, 2011).

With Dr. Hovmand's support I found a causal loop activity that could be used for our workshop and set a meeting with the MN-S Research Team. Members of the team were not in agreement with the causal loop activity that I chose, but made suggestions to adapt it for a Métis context. Cheryl and Tara suggested, for example, that our causal loop exercise begin as a Sharing Circle. As a team, however, we became concerned that we were not culturally competent to facilitate a Sharing Circle. At the same time we were also experiencing challenges with participant recruitment, which was already underway through postings in the MN-S newsletter, Métis locals across Saskatchewan, and various Métis and First Nation organizations throughout Saskatoon. The MN-S Health Department advised that I speak with a Métis Elder regarding creating a Métis culturally relevant and appropriate GMB workshop and our challenges with

recruitment. We had various questions on how to create a culturally respectful and relevant GMB workshop, such as: Can we facilitate a Sharing Circle if we are not Elders? Can we model TB while people are engaged in storytelling and story listening? Is a Sharing Circle an appropriate method to elicit Métis community members' stories of TB? What are the protocols for conducting a Sharing Circle and incorporating a causal loop exercise? In addition to seeking guidance from a Métis Elder, I scheduled meetings for continual support with my Co-Supervisor, Dr. Hovmand; a Métis community member; and my supervisor, Dr. Abonyi. Through these relationships I had the opportunity to create mental, emotional, cultural, educational, and spiritual rooting, awareness, clarity, and support.

My Métis cultural teachings are based on the foundation of relationship or 'all my relations', therefore, including Elders in the research process can be described as the 'heart' of Indigenous pedagogy. Elders are the gatekeepers of wisdom, knowledge, and history. They impart tradition, knowledge, culture, values, and lessons using storytelling and role modeling (Archibald, 2008). Therefore, seeking guidance, support, and mentorship from Elder Maria Campbell was necessary for our Métis research process. I have known Maria for many years and I have attended marriage and naming ceremonies where she was the ceremonial Elder, conferences and workshops where she was the keynote speaker, and a graduate course where she was the professor. I have also read her 1973 book titled *Half Breed*<sup>22</sup>. I was anxious to approach and talk with Maria Campbell because I had never asked for guidance and support from an Elder before. I knew that working with an Elder meant a level of responsibility, accountability, availability for and within my community that I was unsure I was ready for. Archibald (2008) suggests, "...being culturally worthy means being ready intellectually, emotionally, physically, and spiritually to fully absorb cultural knowledge (p. 41)."

When asking for guidance, support, ceremony, cultural teachings, and/or traditional knowledge from an Elder, there are protocols to follow. Protocol refers to the cultural practices or statements that have been established through traditions that individuals must follow when they are making a request from another person or for a specific relationship to be established

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<sup>22</sup> *Halfbreed* is a 1970s autobiography of Maria Campbell. Campbell is a Métis woman that writes about her experiences growing up in poverty until her adult years. As well, she recalls a period of time in prostitution, drug and alcohol addiction, and involvement in the drug trade. She shares her experiences of violence and racism that she endured, but also her family, community, and other First Nations populations. Campbell's story gives voice to Métis women.

(Archibald, 2008). My Métis cultural traditions have taught me the importance of prayer, smudging, and setting intentions prior to any engagements with Elders. Therefore, I needed to smudge and pray for guidance from the Creator, Mother Earth, and all my relations. As well, I had to set clear intentions before the meeting, as a means to ensure that my intentions were purposeful, meaningful, and honest, and that I was guided by my heart and spirit. Then, upon meeting with an Elder, I must provide an offering. An offering can include tobacco, sage, tea, blankets, and monetary gifts in exchange for support, guidance, and teachings. Many Elders accept tobacco when they are asked to share their knowledge, however, this depends on the cultural teachings of the Elder (Michell, Vizina, Augustus, & Sawyer, 2008).

Fortunately, Maria and I were able to connect by telephone to arrange for some face to face meetings. The first meeting was scheduled to take place at a local coffee shop, and the second would be in her home two days later. Upon arrival at the coffee shop I presented Maria Campbell with tobacco, before seeking guidance and support around the research. However, she stated that tobacco was not necessary, as the information and support that we required was not based on traditional knowledge. Maria agreed to provide guidance and information when needed to aid in the research project. After some time discussing our personal lives, I began asking the questions the MN-S Research Team had regarding the creation of a culturally appropriate GMB workshop. Through our conversation I learned that because our project was not engaging in traditional teachings we could facilitate a Sharing Circle. Then, Maria taught me how to conduct a Sharing Circle for this research project. This was valuable information because the MN-S Research Team deemed the Sharing Circle method the most culturally appropriate technique to be used alongside ‘modeling’ TB with a causal loop (M. Campbell, personal communications, January 10<sup>th</sup>, 2012).

Next, Maria shared the possible reasons why we could be having problems regarding participant recruitment. In our recruitment advertisements we indicated that the workshop would be held at the offices of the MN-S. As a team we decided the location based on our assumptions of ease of access, convenience, and the free cost. However, we may have been naïve in choosing the location. Maria shared that based on her experience living, working, and volunteering in Saskatoon for numerous years, many Métis community members see the MN-S organization as a political structure. As a result, there was the possibility personal politics were in conflict with the MN-S as a political organization (M. Campbell, personal communications, January 10<sup>th</sup>, 2012).

Two days later I met with Maria at her house to seek further support. After tea, snack, and sharing our personal lives again, we delved into the research project. I began to ask Maria questions regarding our participant selection criteria, and Métis methods intended for use during the workshop. I learned that our selection criterion was strict (Saskatchewan Métis individuals between the ages of 18 and 80 who had personal and/or family experiences and/or stories of TB), and our method of providing reciprocity by prayer and a tobacco offering was inadequate. I had made assumptions about identity, such as Métis status and religion, and neglected to understand how these could affect the research project. Maria reminded me that due to the Indian Act of 1876, an Indigenous woman lost their treaty Indian status and rights if their husbands enfranchised<sup>23</sup>, or if they married a man of Euro-Canadian descent. However, in 1985 Bill C-31<sup>24</sup> was created to allow all Indigenous women and children who lost their legal status and rights through marriage and enfranchisement to regain it. Maria shared that many of her relations<sup>25</sup> who lost their Indigenous status and rights are still in the legal process of regaining it. As a result, for many years some chose to identify as Métis, even though they had treaty Indian entitlement (M. Campbell, personal communications, January 12<sup>th</sup>, 2012).

Maria recommended that I not have strict identity criteria for my participant recruitment strategy. She advised that if an individual responded to our call for participants and they were ‘Bill C-31’ individuals (Treaty Indian now but considered themselves Métis before), they should have the opportunity to be involved in the workshop. I realized I had applied a colonized (western) practice of using the legal categories to define our culturally diverse Indigenous groups in Canada, instead of allowing individuals to identify however they would like. This was a valuable lesson (M. Campbell, personal communications, January 12<sup>th</sup>, 2012).

Another valuable lesson was learned when Maria reminded me that many Métis people are Roman Catholic or Protestant. However, because many members of the MN-S Research Team identify as contemporary Métis who occasionally engage in traditional ceremonies, we

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<sup>23</sup> Refer to page 38 Footnote 10 for description of Enfranchisement Act.

<sup>24</sup> In 1985 the Canadian Parliament passed Bill C-31, which was "An Act to Amend the Indian Act". The act has amended the Indian Act in a number of important ways:

- It ended the discriminatory provisions of the Indian Act against women. An Indian woman who marries a non-Indian man no longer automatically loses her Indian status.
- Those individuals that lost or renounced their Indian status and/or Band membership due to the Enfranchisement Act of 1876 can be reinstated (Brizinski, 1993).

<sup>25</sup> Relations refers to birth family, relatives, close friends, and close community members.

planned a smudging ceremony at the beginning of the workshop, a tobacco offering in a hand stitched pouch, and a jar of jam for participants. We did not realize that these acts may be deemed disrespectful towards Christian individuals. I needed guidance from Maria on how to negotiate the ‘in-between’ worlds of traditional Métis customs and Christianity. Maria suggested flexibility in my ways and beliefs, and to trust that participants would identify as they wished – culturally and spiritually - during an initial email and/or telephone conversation. Maria recommended that I smudge and pray in our workshop room before participants arrived. She explained the purpose and method of smudging the room, and provided a prayer in setting good intentions for this research project. I appreciated this lesson as it allowed me to honour my Métis ways of being, doing, and knowing and members of the research team. As well, smudging and praying before participants arrived provided the space to honour those Métis individuals that do not smudge, thereby respecting their individual practices. In addition to the practice of smudging, as a team we decided to show our appreciation (act of reciprocity and respect) of our participants through gifting a hand-stitched pouch with tobacco and a jar of jam. Maria explained that if individuals do not practice reciprocity and respect through giving of tobacco, that we should trust that they will not take offense and will politely decline the tobacco (M. Campbell, personal communications, January 12<sup>th</sup>, 2012).

Seeking support and guidance from a Métis Elder was integral. In an effort to respect local Métis community protocols, culture, and values, Maria provided me with valuable lessons in honoring and appreciating diversity amongst our Métis communities. Moreover, I learnt of ways the MN-S Research Team can create a culturally respectful and relevant GMB workshop. However, as a Métis community member and PhD student I found myself in contested ground, where I wanted to be legitimate, culturally relevant, appropriate, and respectful within my Métis community as well as within the academic and GMB community. Thus the support from my Co-Supervisor, Supervisor, and Community Supporter was also important during this time.

After my meetings with Maria Campbell, I scheduled a meeting with Dr. Peter Hovmand to share my experiences and insight gained as well as seek further knowledge on the GMB method. I shared with Dr. Hovmand the MN-S Research Team’s questions (similar questions that I asked Maria Campbell) about legitimacy and cultural appropriateness: Can we call a Sharing Circle GMB? Will our Métis ways of engaging in GMB be considered ethical, valid, and reliable GMB methods? Once again, through storytelling, Dr. Hovmand shared his experiences,

knowledge, wisdom, and perspective on the different styles of GMB workshops, meetings, and community groups that he collaborated with. I requested specific answers, templates, and the format on how to do a Métis-specific GMB workshop. However, Dr. Hovmand would not give me a template. He gently reminded me that GMB implies that as a group we (the MN-S Research Team) are co-creating our methods, language, roles, and scripts for our specific Métis GMB workshop. As usual, he supported every decision that we made as a team, and reinforced our decision to facilitate a Sharing Circle to aid in the development of a causal loop on the participants' individual and family stories of TB. (P. Hovmand, personal communications, January 13<sup>th</sup>, 2012).

In that moment I noticed that I was resistant to venturing into the unknown territory of a Métis-specific GMB workshop, honoring Métis ways of being, doing, and knowing. I wanted the ease of fitting into a structure, paradigm, method, and template. My academic training and personal assumptions with regards to research legitimacy, validity, reliability, and rigidity in conducting 'proper' scientific research was getting in the way of listening to my community partners and collaborators. I feared that engaging in Métis health research and incorporating GMB would be perceived by academia, the population health field, and the GMB community as unscientific and using invalid methods, ethics, and analysis. In the end, I learned the valuable lesson of respecting, honouring, and listening to my Research Team; they were my community partners and collaborators. This is part of community-based, participatory Métis health research. Therefore, as a team, we acknowledged that we were indeed conducting ethical and scientific research.

I was anxious and uncertain and continually questioned myself and my intentions surrounding the research, so I scheduled weekly appointments with Mariah Sinclair, a Métis counselor and owner of Resonance Counselling, Coaching, & Consulting. I had questions such as: How do I fit into the academy as a Métis health researcher? As a student researcher how do I fit into the Métis community? How do I create a bridge between these seemingly separate, distinctive worlds? How do I ethically, morally, and culturally bridge academia and community?

Through numerous appointments, I shared my anxieties, intentions, visions, and perceptions. Through my conversations with Mariah, I realized that somewhere along my academic journey I neglected to attend to my spirit, my Métis ways of being, doing, and knowing. Mariah suggested that I create a quiet space within my day to smudge and pray at my

home. She suggested I do this every day when I wake in the morning and before going to bed. My weekly sessions with Mariah solidified that I am Métis enough, I am Métis in everything I do and I cannot lose my “Métis-ness” regardless of academia, research, occupation, and political factions. Therefore, the act of smudging and praying provided me with a sense of identity, peace, strength, and encouragement. This allowed me to participate with my research team and participants with grounding, creativity, flexibility, and sureness (M. Sinclair, personal communications, December, 2011).

Throughout the entire research process my supervisor, Dr. Sylvia Abonyi, encouraged me to engage in a research paradigm, epistemology, methodology, and ethics that were congruent with my Métis ways of being, doing, and knowing. With continuous scheduled meetings, we shared personal and professional stories of research, family, community, identity, and the academy. Each time I was unsure of my research path, an intertwined journey of my becoming and being a Métis health researcher, she listened. Throughout this journey of learning from academia and my community we worked together to interpret, understand, and combine worldviews to ‘make sense’ of the research. Through respect, relevance, relationship, and reciprocity, we engaged in the ceremony of research together.

The guidance and support from the Elder, Co-Supervisor, Community Supporter, Co-Supervisor, and Supervisor were vital processes in this research journey. I continually shared my learning and insights with the MN-S Research Team. This, in turn, aided the MN-S Research Team to move forward together and continue to plan the GMB workshop.

#### **4.5 Planning the GMB Workshop**

A major goal of GMB is to engage with a group of individuals to promote discussion, teamwork, co-learning, and collective action (Vennix, 1996). Therefore, the process required the MN-S Research Team to manage the different tasks, activities, and roles during the GMB workshop. Prior to meeting with the MN-S Research Team, I created a working draft of the GMB workbook that outlined our workshop agenda, possible scripts, and a list of defined roles to choose from. At the meeting I shared the GMB workbook template, with scripts, roles, and agenda. However, I experienced a great deal of resistance from Cheryl and Tara, as they wanted to delve into the intentions behind the roles and scripts to co-create a Métis GMB experience that spoke directly to our Métis worldview. They were reluctant to use scripts that were utilized with other cultural groups, communities, and populations and desired to design scripts specific to our



people and community. Through lengthy discussions the MN-S Research Team agreed that the intention with GMB roles and scripts was to create opportunities for GMB members to invest in the process, thereby creating capacity in all research members in labeling, defining, understanding, and undertaking the roles.

All GMB roles and scripts were designed to fulfil the purpose of co-creating a common vision and understanding, collaboratively and constructively with relevance, reciprocity, and respect. For that reason, the MN-S Research Team modified, added, and discarded some of the GMB roles outlined by Richardson and Andersen (1995). Therefore, the MN-S Research Team decided our roles to include local knowledge keeper/facilitator, modeler/facilitator, note taker, time keeper, debriefer, reflector, photographer, emcee, Circle Keeper, and technical attendant.

#### **4.5.1 Local Knowledge Keeper/Facilitator.**

The MN-S Research Team agreed with the Richardson and Andersen (1995) overview of the local knowledge keeper/facilitator role. This role is to be filled by an individual from the organization who is familiar with the community members and problem to be explored. This individual needs experience rooted in the community practices, institutions, relationships, rituals, language, and ceremonies. The local knowledge keeper/facilitator is an individual with strong group facilitation skills who assists the GMB participants in communicating their ideas, stories, knowledge, and insights. It is important for this individual to have a basic understanding of system dynamics as well as familiarity with and tools to anticipate and mediate disagreements that might arise. This is a visible role because this individual is constantly working with the group to further the creation of the visual picture/model of the problem.

#### **4.5.2 Modeler/Facilitator.**

The primary responsibility of the modeler/facilitator is during the causal loop creation process. The role is as both modeler and facilitator. This individual sketches out the cause-effect relationships (causal loops/feedback loops) based on the stories of the participants. The modeler/facilitator relays information back to the group through the causal loop diagrams and reorganizes the loops based on group input, clarifies unstated assumptions, and develops important aspects of model structure and behavior (Richardson & Andersen, 1995).

#### **4.5.3 Recorder - Note Taker(s).**

The MN-S Research Team decided to change the name of the recorder to “note taker.” Similar to the role as described by Richardson and Andersen (1995), the note taker(s) is responsible for writing down key points, stories, ideas, and decisions of the participants during the GMB workshop. They are required to write down all comments verbatim where possible. Recording the group’s stories is very important for reconstructing all variables within the causal loop diagram after the session is completed. The session itself is full of rich stories and conversations that are vital in causal loop diagrams. As well, the note taker(s) has the task of collecting all the notes and materials from the GMB workshop and making them available to all members of the MN-S Research Team.

#### **4.5.4 Time Keeper.**

Richardson and Andersen (1995) also suggest the role of a time keeper. This is to ensure the GMB session starts and finishes according to the time allotted. As well, this person is responsible for honouring break times. These authors suggest the time keeper’s additional duties may include monitoring how long the facilitator and group is taking to accomplish their goals and objectives; providing regular updates to the facilitator on the time; and collaborating with the facilitator, GMB participants, and core team members to determine new time schedules if the agenda has to be adjusted.

The MN-S Research Team modified the role of the time keeper. The team recommended that the time keeper only have responsibilities during certain parts of the GMB workshop. Primary responsibilities are during the first half of the workshop prior to the Sharing Circle. The primary task of the time keeper is to make sure the group stays within the time allotted for specific activities. As well, this person is responsible for honouring break times. Time is not kept during the Sharing Circle; it is not culturally appropriate to do so. The Sharing Circle continues until all participants feel they have told as much of their story as they wish.

#### **4.5.5 Debrief.**

The MN-S Research Team decided it would be important to have the role of a debriefer. The primary responsibility of the debriefer is to guide the MN-S Research Team into an open-ended, non-judgmental sharing period after the GMB session, to allow for reflection on the

process and outcome. The debriefer helps to facilitate the act of deepening understanding through discussions of the team's accomplishments and struggles during the GMB workshop.

#### **4.5.6 Reflector.**

The role of the reflector is to aid the group in thinking about the progress made during the GMB workshop. The goal of reflecting is to explore the experiences of the participants, to aid in new understandings and appreciation. Richardson and Andersen (1995) suggest the role is suited for an individual with knowledge and understanding of system dynamics as well as strong listening and communication skills.

#### **4.5.7 Photographer.**

The MN-S Research Team decided it was important to document our process, therefore we created a role of a photographer. The primary responsibility of the photographer is to take photographs during the GMB workshop where appropriate. However, it is deemed disrespectful toward participant stories and experiences if photographs are taken during the Sharing Circle, therefore none are to be taken.

#### **4.5.8 Emcee.**

The MN-S Research Team created the role of an emcee. The role of the emcees is to help facilitate the workshop processes. This individual helps the participants understand the objectives of the workshop, introducing procedures and speakers. As well, the emcee speaks to the participants to keep the event moving by telling jokes and stories during the transition phases of the workshop.

#### **4.5.9 Circle Keeper.**

The Circle Keeper is a MN-S Research Team-generated role. The Circle Keeper is the caretaker and facilitator of the Sharing Circle process and ensures that everyone takes responsibility for helping to "keep" the Circle. Hart (2002) states,

Sharing circle usually have experienced conductors, sometimes referred to as facilitators or leaders....that the "leader has a huge role" and that the strength of the sharing circle depends significantly upon the conductor....the conductor must be kind, gentle, respectful, moral, ethical, confident, strong and flexible.

(p. 72)

The Circle Keeper communicates the intentions and rules of conduct. This means that individuals cannot get up and walk out, get coffee, or go to the washroom while the Sharing Circle is going. All members within the Sharing Circle are encouraged to share, including the Circle Keeper. Once all members feel complete in their sharing, the Circle Keeper closes the circle with thanks and reminders of confidentiality and a prayer.

#### **4.5.10 Technical Attendant.**

The technical attendant is a MN-S Research Team-produced role. The main responsibility of the tech attendant is to provide support and technical issue resolution for any issues regarding the internet, e-Mail, phone, PowerPoint, projection screen, and other electronic devices that are used during the GMB workshop. As well, they ensure all electronic devices are in the workshop room, ready to be used.

Richardson and Andersen (1995) suggest having the role of an observer. They state that the observer is an external person who is not involved in the GMB process, who watches and listens to the group process and experience. The observer provides feedback to the core modeling team about how the sessions are going. The observer should be an individual with no prior knowledge or experience of system dynamics or GMB in order not to be biased with their perceptions of the process. However, for our GMB workshop the MN-S Research Team did not feel the need for an outside observer, therefore we did not have one.

The student researcher engaged in the roles of modeler/facilitator, note taker, reflector, debriefer, and Circle Keeper. Tara was the local knowledge keeper, note taker, emcee, and reflector. Cheryl Troupe was the photographer, note taker, time keeper, and technical attendant. Karen Yee was the modeler/facilitator. Dr. AbdelMallek was not present during the GMB workshop. These roles are outlined in the MN-S Research Team workbook, which includes a detailed agenda of the GMB workshop and our detailed scripts.

#### **4.5.12 Scripts.**

Certain activities during the GMB workshop were facilitated and therefore individuals on the MN-S Research Team had a script to follow. As a team we reviewed past scripts adapted by Dr. Hovmand and further revised them to suit our workshop. Because we reviewed and adapted the scripts as a team we were familiar with them and were able to flow into our respective roles and facilitated activities with ease. The adapted scripts (see Appendix C) include:

1. Logistics and Room Arrangements
2. Elder Etiquette and Prayer
3. Relational Contexts: Honouring Individuals
4. Sharing Circle: TB Stories and Experiences
5. Debrief: MN-S Research Team
6. Causal Loop Diagram

The MN-S Research Team worked together to plan the GMB workshop. Decisions made by the team included scheduling the days and time of the workshop, duration, planning, and creating activities. The MN-S Research Team created a detailed agenda (see Appendix D), roles, and scripts that comprised our GMB workbook. Each team member was given a GMB workbook that provided detailed times of our workshop exercises and well as descriptions of our chosen roles before the workshop.

#### **4.6 GMB Workshop Participant Recruitment**

The MN-S Research Team identified that our project required Métis participants who were willing to provide personal and/or family stories on TB and were willing to engage in the GMB process. As well, the MN-S Research Team recognized that it would be valuable for the team to evaluate the GMB process. Therefore, the Research Team identified two types of participants: GMB workshop participants and the MN-S Research Team (on-going: before, during, and after GMB workshop). Inclusion criteria for eligible GMB workshop participants included Métis individuals (male or female) in Saskatchewan between the ages of 18 and 80 who had personal and/or family experiences and/or stories of TB. All participants:

- Willing and able to drive and/or find transportation to and from the workshop in Saskatoon
- Committed to the consecutive two day workshop (Day One – seven hours) (Day Two – five hours)
- Gave informed consent.

Participant recruitment was the act of finding individuals who fit the inclusion criteria and were willing to partake in the research. As such, the student researcher proceeded by submitting a newsletter advertisement in the MN-S monthly, province-wide newsletter titled *Landscape* (Appendix E). This helped to inform the broader Saskatchewan Métis community about the research project and included a request for research participants. As well, the MN-S Health Department emailed and/or faxed the recruitment posters (see Appendix F) and introduction/invitation letters (see Appendix G) to their contacts. These included:

- Gabriel Dumont Institute of Native Studies and Applied Research
- Dumont Technical Institute
- Métis Addictions Council of Saskatchewan Inc.
- First Nations University of Canada
- Métis National Council of Women
- Infinity House
- Saskatchewan First Nations Women's Commission
- Saskatchewan Indian Institute of Technology
- Central Urban Métis Federation Inc.
- Federation of Saskatchewan Indian Nations
- Métis Women of Saskatchewan
- SaskMétis Economic Development Corporation
- Métis Family and Community Justice Services
- Saskatoon Indian and Métis Friendship Centre
- 12 Métis Regions within Saskatchewan

Along with these participant recruitment strategies, I drove to locations within Saskatoon to hang posters and engage in discussions with front line workers, directors, administrative assistants, and nurses. These included:

- AIDS Saskatoon
- Westside Community Clinic
- Saskatoon Indian and Métis Friendship Centre
- Gabriel Dumont Institute of Native Studies and Applied Research
- University of Saskatchewan

Interested participants were able to contact the student researcher and/or MN-S Health Department directly by email and/or telephone. Once a potential participant contacted the student researcher and/or MN-S Health Department, an orientation to the project was provided. This orientation included a one-page information introduction letter/invitation as well as all pertinent consent forms, which included the GMB workshop and storytelling evaluation consent form (Appendix H), transcript release form (Appendix I), photo release form (Appendix J), list of storytelling evaluation questions (Appendix K), and the GMB workshop agenda (Appendix D).

Once a participant communicated further interest in the GMB workshop, the student researcher requested a face-to-face meeting with the individual (at a location of their choice, usually a coffee shop). In the act of creating a relational space, and the reciprocal exchange of storytelling and story listening, I scheduled meeting times with each participant that lasted two to three hours. This allowed us to get to know each other on a personal and professional level, aiding in building a relationship based on trust and transparency that honoured the ethics of reciprocity, relevance, and respect. The meeting also provided the space to offer an overview of the research project including all consent forms, as well as outlining expectations during the GMB workshop and evaluation. Therefore, we reviewed the types of knowledge that were collected, along with the opportunities for the participant to be involved in the knowledge collection and interpretation process. This meeting provided the participant the opportunity to identify whether the research project had relevance in their lives, and whether creating relationships with the student researcher, MN-S Research Team, and other participants had

importance for them. As a Métis researcher I have the responsibility to nurture the relationships I have created and I have a duty to uphold this kinship by maintaining contact with all individuals. For that reason, I continue to meet and/or talk with everyone involved in the research, through coffee meetings, email, telephone and video conferencing.

Obtaining continual (before, during, and after the GMB workshop) informed consent from research participants was a process of sharing information and addressing all questions and concerns regarding the research. The student researcher provided ongoing clarifications that aided the participants in making informed decisions about participating in the research project. Participants had the opportunity to sign and/or provide oral consent before the GMB workshop, during the student researcher and participant face-to-face meeting. As well, at the beginning and during of the GMB workshop the student researcher provided further orientation to the project and consent forms, allowing for further opportunity to sign and/or provide oral consent to participate in the research project. Participants were also advised during the GMB workshop that their involvement was voluntary, and they could answer only the questions that they were comfortable with. Moreover, they were able to change their answers or withdraw from the research project for any reason, without penalty of any sort. Participants were advised that they had two months from the date of the GMB workshop (knowledge collection) to withdraw from the project, however, no participants withdrew. Ultimately, there were 7 participants throughout the entirety of the research process and 5 participants who shared their TB stories at the GMB workshop.

#### **4.7 Knowledge Gathering**

Knowledge is part of all cultures, along with strategies for gaining knowledge and deciding how accurate it is (Cunningham, 2009). During the course of this research project, we gathered knowledge in a variety of ways:

1. Journal/Field Notes
2. MN-S Research Team presentation (evaluation of our research process)
3. Sharing Circle stories relating to the connection circle and causal loop diagram
4. A causal loop diagram on the determinants of TB



5. Discussions during the creation of the causal loop diagram
6. Participant evaluation of the GMB workshop
7. MN-S Research Team evaluations of the research process and GMB workshop

#### **4.7.1 Field Notes.**

Throughout the research process I kept a journal to assist me in reflecting on how my identity, interests, values, commitments, experiences, and beliefs shaped the research. As well, I took field notes throughout the entire research journey. I hand-wrote thoughts, ideas, suggestions, and conversations I had with the MN-S Research Team, my supervisor, and my co-supervisor. All field notes came from face-to-face interactions, telephone conversations and emails regarding the research topic. This process knowledge was used as a memory guide to the events that occurred throughout the research process. This helped to shape the themes within the knowledge analysis, in addition to connecting MN-S Research Team and/or participant conversations to stories shared before, during, and after the GMB workshop.

The MN-S Research Team also had an opportunity to explore the process of our research project before our GMB workshop. In November 2011, we were invited to do a presentation about our research project to the Washington University Social Systems Design Lab<sup>26</sup> within the Brown School of Social Work in St. Louis, Missouri. Because the presentation was two months before our scheduled GMB workshop, we did not have our GMB workshop results to present, so we decided to share our research collaboration process to provide insight into how we worked together to create a Métis-specific GMB workshop. As it was our first presentation, we had to rethink, remember, and reflect on what we had done to create our team, our methods, and ethics. To prepare for this presentation, the MN-S Research Team scheduled numerous meetings and engaged in reflection to inspire the sharing of our multiple perspectives of our research process. We reflected on what we had done, which helped us improve our research relationship and planning of our GMB workshop. Preparing for this presentation allowed us, as a team, to share

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<sup>26</sup> The Social Systems Design Lab (SSDL) focuses on helping students, professionals, and researchers to learn and apply system dynamics to understand and address specific problems within an organization and community. The SSDL advances the science, application, and practice of system dynamics using participatory GMB methods in human services and communities.

<http://gwbweb.wustl.edu/Faculty/ResearchCenters/SocialSystemDesignLab/Pages/Overview.aspx>

and ask ourselves and each other challenging questions and concerns that inspired, motivated, and encouraged our awareness and articulation of our personal/professional research beliefs and experiences.

After much reflection and preparation, each member of the MN-S Research Team prepared a document containing their presentation/stories based on their/our research processes and experiences. During the video conferencing presentation to the Social Systems Lab, each MN-S Research Team member had the opportunity to present their story, using their document as a guide. Our presentation was 45 minutes long with time at the end for questions from the attendees in St. Louis. Following our presentation, the MN-S Research Team gathered for an hour to debrief and discuss our successes and further opportunities.

Approximately six months after our presentation for the SSDL, the MN-S Research Team recommended the inclusion of their presentation stories within the final dissertation. They stated that our research process was just as important as the outcome, therefore each MN-S Research Team member emailed their original presentation documents to me, for inclusion into the final dissertation. Unfortunately, I am unable to provide Irini's research process story, as it was lost due to technical difficulties. Irini decided not to recreate her presentation for the inclusion in the final dissertation because much time had passed and she was unable to recreate the truth of that moment.

#### **4.7.2 GMB Workshop Day One.**

The first day of the GMB workshop was approximately seven hours in duration and focused on building a connection circle based on the participants' personal and/or family experiences and stories of TB during the Sharing Circle. The conference room at the MN-S office was used for the GMB workshop and storytelling evaluation. Even though Elder Maria Campbell stated that this may have been a potential issue with recruitment, as a group we discussed other possibilities. In an ideal world with unlimited resources we would have rented a meeting room in a hotel that provided all the services we needed for the day. However, the resource requirements such as a renting a meeting space, and paying mileage and accommodation for those individuals out of Saskatoon were beyond the scope of the research project and not feasible for me as a graduate student. The MN-S Research Team chose the meeting location at the MN-S office because it was cost effective, accessible by bus route, spacious with a kitchen facility, and had free parking.

Day one of the workshop began with the student researcher engaged in ceremony of smudge and prayer. Based on guidance from the Elder, the purpose of the ceremony was to cleanse the room of any negative feelings, thoughts, spirits, and/or energy and to enter into the GMB process with respect, honour, and good intentions. Once all MN-S Research Team members and workshop participants were present and finished eating breakfast, we began the workshop with introductions. Each participant, including the MN-S Research Team members, had the opportunity to introduce themselves and provide a background of their family, extended family, origin of birth, and land of heritage. Fundamental to any relationship in a personal or research context is the importance of respecting and valuing people and their knowledge. Respect is based on creating relationships grounded in connection, communication, transparency, honesty, and trust. Personal introductions provided an opportunity to create a relational connection with each other.

After the introductions were finished the student researcher gifted each participant and MN-S Research Team member with a hand stitched pouch made by a Métis Elder, filled with certified, organically-grown ceremonial tobacco from Mother Earth Tobacco located in Winnipeg, Manitoba. As well, participants were given a jar of homemade jam made by Cheryl Troupe and a family friend of the student researcher. These were given to individuals to show appreciation, respect, gratitude, and reciprocity. The tobacco and homemade jam in Figure 16 were symbolic expressions of our Métis culture: living and depending on the land for our social, spiritual, physical, emotional well-being. Plus the jam was a tasty treat.



**Figure 16. Tobacco and jam gift.**

*(Photo taken by C. Troupe)*

Once the gift was presented to all members and participants, the facilitator (student researcher) provided an overview of the workshop proceedings and a review of the consent forms. The student researcher reminded all participants and MN-S Research Team that the Sharing Circle, causal loop exercise, and evaluation were audio-recorded. As well, all participants and the MN-S Research Team were reminded that the research results would be reported in the form of direct quotations, but that individual identities would be confidential; however, all individuals agreed to use their real names instead of pseudonyms. After all team members and participants signed applicable consent forms, the facilitator provided background information on system dynamics tools such as behaviour-over-time graphs, connection circles, circles of causality, and reinforcing and balancing feedback loops.

Next, the Circle Keeper guided the participants in a Sharing Circle. The Circle Keeper introduced the Sharing Circle with associated ground rules for those involved. Once everyone was clear and in agreement on the Sharing Circle process, the Circle Keeper passed the Talking Stick (a decorative stick to be used as the talking piece) to the individual to her left, to begin the Circle. The Talking Stick was passed around from person to person and everyone had the opportunity to share, numerous times. The Talking Stick was provided by Cheryl Troupe and was made by a Métis female Elder from the Qu'Appelle Valley (the same Elder that made the hand-stitched pouches). As seen in Figure 17, it is embroidered with Métis silk and ribbons,

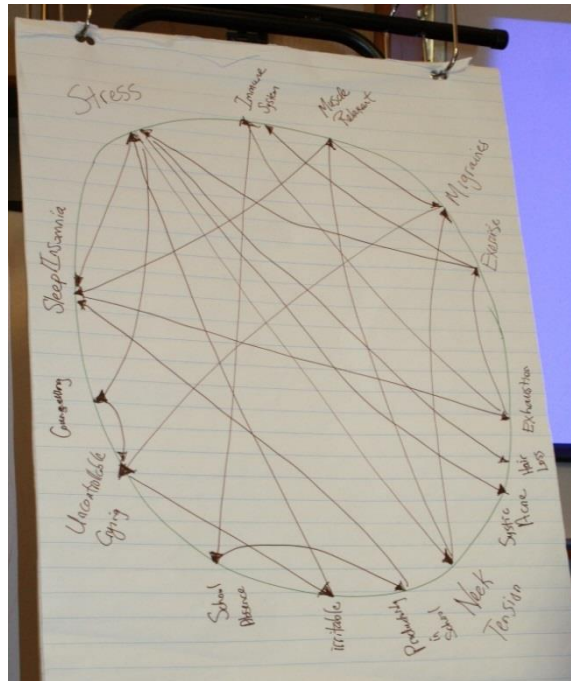
decorated with floral designs, with some crosses on it, symbolizing the holistic nature of Métis understandings, and the diversity within Métis peoples. The decorations on the Talking Stick are symbols to help provide the individuals with the courage and wisdom to speak truthfully and wisely. As well, the symbols are a reminder for individuals to speak from the heart; as such if the individual felt he/she could not honour the Talking Stick with their words, they were to refrain from speaking.



**Figure 17. Talking stick.**

*(Photo taken by C. Troupe)*

Simultaneously, the ‘modeler’ sketched out a connection circle for each participant on a flip chart. The connection circles, as seen in Figure 18, were created from the participants’ stories and conversations and represented the interconnected social determinants of health influencing TB.



**Figure 18. Connection circle.**

*(Photo taken by C. Troupe)*

More precisely, the modeler wrote down one to three words/factors (nouns, adjectives, and verbs) that summarized the participants' stories. These words/factors were identified through the participants' stories shared during the Sharing Circle and transformed into a connection circle. Arrows were drawn from one factor to another to trace the cause and effect relationships and expose the feedback loops. The MN-S Research Team initially decided on drawing connection circles during the Sharing Circle, instead of a causal loop diagram using the program Vensim PLE<sup>®27</sup>, because we thought it would be an easier technique to understand. The Sharing Circle was held for three hours and once all participants felt complete in sharing their stories, we adjourned for the day.

After Day One of the workshop the MN-S Research Team had scheduled to meet to debrief and create a causal loop diagram from the connection circles. The debriefing exercise was intended to provide an environment for the MN-S Research Team to share thoughts, concerns, and feelings about the GMB session, roles, and process issues/successes. The causal

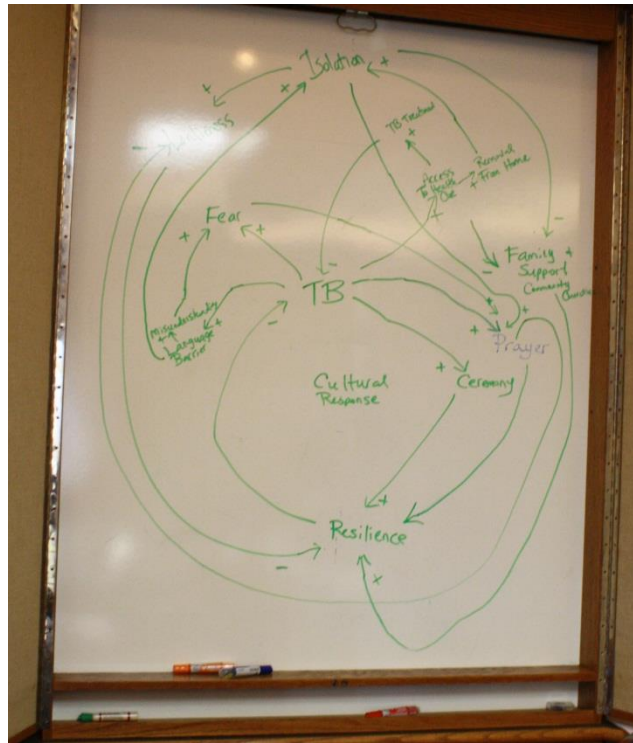
<sup>27</sup> Vensim<sup>®</sup> PLE made by Ventana Systems, Inc. is a free downloadable software package that allows conceptualizing, documenting, simulating, analyzing and improving models of dynamic systems. It provides a way of building simulation models from stock and flow diagrams, as well as causal loop diagrams (Ventana Systems, 2005). Vensim PLE<sup>®</sup> is the software that is used within this research project.

loop exercise was planned to help the MN-S Research Team discuss the connection circles and combine the group stories into one causal loop diagram. However, the MN-S Research Team ultimately decided not to meet, and the facilitated debrief and causal loop diagram did not occur. The MN-S Research Team agreed to connect the following morning. All members were emotionally and physically drained due to the intensity and duration of the Sharing Circle, as well from the extremely warm temperature in the room. Also, many of the MN-S Research Team had family and community responsibilities they needed to attend to.

#### **4.7.3 GMB Workshop Day Two.**

All members of the MN-S Research Team arrived at the workshop an hour and a half before commencing. Once again, we neglected to engage in a facilitated debrief and creation of a causal loop diagram from the participant stories and connection circles. We sat together momentarily and shared some of our feelings, perceptions, and concerns; however, our focus was more toward preparing the workshop room and breakfast for participants. Day two of the GMB workshop was five hours in length and began with the facilitator welcoming back all individuals, and then the reflector led the group in summarizing the previous day's activities and results. At that point, all participants and MN-S Research Team members discussed and decided together to create a combined causal loop diagram from the individual connection circles and stories created and shared during Day One.

The facilitator proceeded by providing another explanation of circles of causality: reinforcing and balancing feedback loops. Next, the facilitator led group discussions based on the Sharing Circle stories, while the modeler began sketching the factors/variables associated with the stories on a white board, as seen in Figure 19.

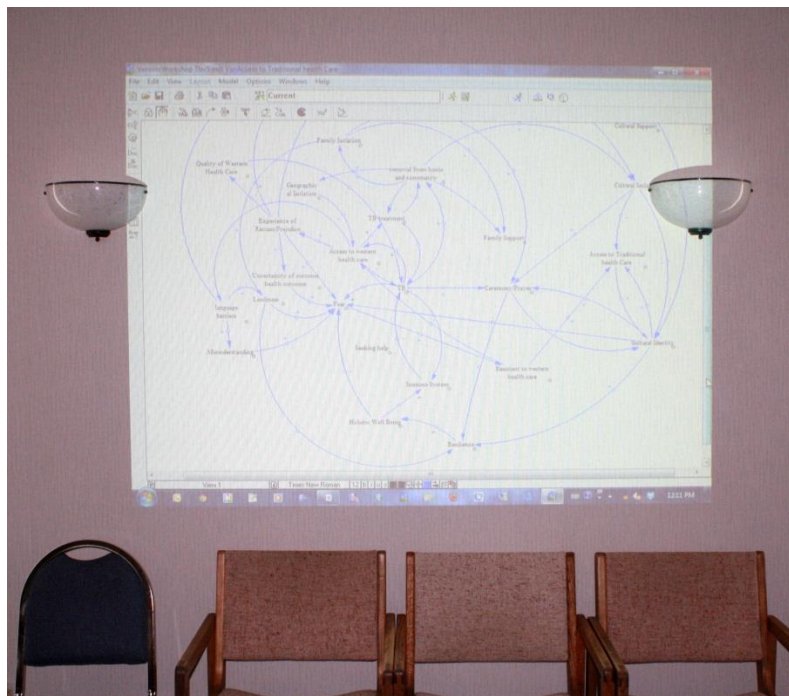


**Figure 19. Causal loop on white board.**

*(Photo taken by C. Troupe)*

Within one hour of drawing the causal loop diagram on the white board it became too big for the space. So, the facilitator and modeler converted the structure into the Vensim PLE<sup>®</sup> program and projected the diagram on the wall. Please refer to Figure 20.





**Figure 20. Causal loop on wall.**

*(Photo taken by C. Troupe)*

Once substantial information was transformed into the causal loop diagram, the facilitator and modeler explained the different areas of the structure and asked if they represented the participants' stories and experiences of TB shared during the previous day. The facilitator, modeler, and participants had lengthy discussions and continued sharing stories that contributed to the creation of the causal loop diagram. Refining the causal loop diagram took considerable time, during which the facilitator and modeler guided discussions around potential feedback of future unintended and intended positive and negative consequences. As well, all participants and the MN-S Research Team considered possible policy interventions. This activity lasted four hours with lunch and coffee breaks incorporated into the time frame.

The MN-S Research Team indicated the importance of linking individual stories with parts of the causal diagram to emphasize their importance. Therefore, the Sharing Circle and causal loop exercise was audio recorded. This allowed the student researcher to honour the stories being told during the exercise, as well as aid in the creation of a comprehensive and holistic picture of TB formed with stories, words, and a diagram. The audio recordings of the Sharing Circle and causal loop exercise were transcribed by a transcriptionist who signed an anonymity and confidentiality form (see Appendix L). These transcriptions along with the causal

structure were given to each participant and MN-S Research Team member who contributed their story to review, confirm the accuracy of, and make corrections where required (see Appendix I for Transcript Release). Once satisfied that the transcripts reflected their comments and stories, each participant and MN-S Research Team signed the transcript release form.

Photographs were taken throughout the GMB workshop. The photographer took pictures of the causal loop exercise to help capture the context and as a narrative aid, allowing for later description and analysis not possible in real time. The photographs provided a visual context of the causal loop diagramming during the GMB workshop. The student researcher sought approval of all participants and MN-S Research Team prior to taking the photographs. At the end of Day Two of the workshop the photograph release form (Appendix J) was presented to all participants and the MN-S researcher team. All participants and MN-S Research Team members approved the use of all photographs. Next, the facilitator announced the transition to the next knowledge collection point: the participant and MN-S Research Team evaluations of the GMB workshop.

At end of Day Two, the facilitator introduced the evaluation component of the research. This process involved engaging the participants in storytelling and story listening (a form of interview) based on their understanding, experience, and perceptions of the Métis and GMB methods used during the workshop. This evaluation was structured similar to a Sharing Circle<sup>28</sup>. The intention behind a storytelling and listening evaluation was fundamentally the ceremony of research: honouring and respecting individuals by listening intently with open ears, eyes, minds, and hearts (our whole being inclusive of our spirit), as well as talking with honour and respect with our whole being. Similar to Sharing and Talking Circles, honesty, truth, respect, empathy, insight, humility, and love are the values inherent within sharing processes. I chose a storytelling and listening evaluation because it is in alignment with values fundamental to the Métis world view and spirituality. This style of evaluation was both a forum to bring all participants together and a ceremony to remind us of the sacred.

First, the facilitator discussed the purpose and process of the storytelling and sharing evaluation, then asked if all individuals were willing to engage in sharing their stories. To encourage storytelling and story listening, a list of questions was provided to each participant to help trigger their perspectives and insight on the GMB workshop (refer to Appendix M). The questions were open-ended to allow the participants to share as much or as little as they wanted.

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<sup>28</sup> For detailed information on storytelling/listening and Sharing Circles see Chapter 3 pages 89-96.

Each participant had the opportunity to share their thoughts and feelings without fear of criticism or interruption. The first person to the facilitator's left was asked to speak first. The participant was asked to share their story (experiences, perceptions, thoughts about the GMB workshop) until they were finished. Once they were done, the participant would look to their left, and would address the next participant to begin their story. While a participant was sharing, all other individuals listened intently without interruption. However, if the participant sharing their story stated that further questions and comments were okay, others were permitted to engage in dialogue with the storyteller. Participants were not required to speak; if an individual was unwilling to share at that moment they could simply say they "pass", and the next person could speak. The storytelling and listening evaluation was a continuous process; each individual shared many times, as their turn came back around again. The evaluation was complete when all individuals stated that they were finished sharing the stories. The evaluation was audio-recorded, transcribed, and a copy of their shared experience was given to each participant for the opportunity to review, confirm accuracy, and make corrections where required.

The last piece of the knowledge collection involved the MN-S Research Team evaluating the GMB workshop, allowing them to reflect on the process in a systematic way. After the GMB workshop participants had departed, the MN-S Research Team engaged in an evaluation to help create a fuller understanding of the process and outcome of converging of paradigms and methods for this research project. The student researcher had a series of questions to prompt a storytelling and listening evaluation process with the MN-S Research Team (refer to Appendix N). Similar to how the participant evaluations were conducted (see above paragraph), we engaged in the ceremony of storytelling and listening to elicit our experiences, perceptions, hopes and visions of our collaborative research project. The participants were not included in this evaluation because MN-S Research Team members shared their stories based on the last year up to the present. Participants only had stories based on the GMB workshop and not the entire research journey. The evaluation was audio taped, transcribed, and each member of the MN-S Research Team received a copy to review, confirm accuracy, and make corrections of their shared experience where required (see Appendix I for Transcript Release).

#### **4.8 Knowledge Storage**

Individuals who had access to the primary knowledge, such as the audio recordings and transcripts, were the MN-S Research Team and a transcriptionist. The MN-S Research Team was

familiar with the primary knowledge, because they were present during the GMB workshop and subsequent participant evaluation. A transcriptionist was hired to transcribe all audio-recorded stories from the GMB causal loop exercise and evaluations. All individuals signed confidentiality forms. The transcripts were stripped of individually identifiable information.

During the active phases of the study, all handwritten notes were stored in a locked cabinet in a secured place, in the student researcher's home. The student researcher was the only person to have access. The computer used for knowledge collection (causal loop structure notes, storytelling/listening transcripts) and knowledge analysis was password protected and only used by the student researcher. Consent forms were stored separately from the storytelling/story listening transcripts.

#### **4.9 Knowledge Analysis**

Knowledge (data) analysis from a Western research paradigm commonly involves breaking down understandings into parts to explore meanings. However, from an Indigenous research paradigm holistic understanding of the data is valued (Barnhardt & Kawagley, 2008). Wilson (2008) suggests that data cannot be separated into pieces without destroying the essence. Using the comparison of a fishing net to understand an Indigenous data analysis process, Wilson (2008) asserts,

You could try to examine each of the knots in the net to see what holds it together, but it's the strings between the knots that have to work in conjunction in order for the net to function. So any analysis must examine all of the relationships or strings between particular events or knots of data as a whole before it will make any sense. (p.120)

To aid in a holistic understanding of the knowledge, the student researcher worked in collaboration with the MN-S team and used thematic analysis to review the research process knowledge and GMB workshop knowledge collected. This allowed us to find the important themes that emerged in the stories. Thematic analysis is a process used for analysing qualitative data that involves searching through transcribed text to identify any recurrent patterns/themes (Guest, McQueen, & Namely, 2012). Thematic analysis aided the student researcher and MN-S Research Team to examine "the knots in the net" and "the strings between the knots" (Wilson, 2008) and reflect, visualize, and evaluate the themes to understand their importance and identify

relationships connecting them. Our knowledge analysis process for the evaluation<sup>29</sup> and the GMB workshop involved the following steps:

1. Preparing the data for analysis:

Field notes and MN-S Research Team presentation were in text in a Microsoft Word document, therefore the data were prepared. However, all audio recordings were indexed by the major topics/stories; as well a shorter summary outlining the entire workshop was created. The index listed the main stories discussed in the workshop and the approximate places in the recording where they occurred. From that point, all recordings were transcribed into text. A transcriptionist was hired and the work was completed in three months.

2. Initial reading of the text and noted pieces of interest:

I spent two days reading the field notes, presentation, and participant transcribed stories. During the first reading I made note of my thoughts with comment boxes in the margins of the document. This helped me to get a sense of the various topics/themes embedded in the stories.

3. Re-reading the text and notes:

One week later I examined the stories and notes closely, line by line, and added more notes of any themes that I noticed.

4. Highlighting stories of interest into themes:

This is where themes within the stories began to emerge. I began highlighting the themes in various colours, then collecting the participant stories (themes) that fit together.

5. Exploring the stories grouped in themes and their definitions:

I scanned back through the stories and examined how they were assigned to a theme, in order to evaluate their current meaning. A temporary name and flexible definition was created for each theme.

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<sup>29</sup> This included the researchers' field notes and the MN-S Research Team's presentation for the Social Systems Lab in St. Louis Missouri.

6. Re-examining the original stories and initial themes and definitions:  
I took each theme separately and re-examined the original stories relating to that theme to check if any stories assigned to a theme were inconsistent.
7. Review of initial themes and definitions by the MN-S Research Team and participants:  
The MN-S Research Team members and research participants had two weeks to read over initial themes and definitions to provide suggestions and feedback. All suggestions and feedback were used within the final analysis.
8. Creating the final version of each theme:  
The name, definition, and supporting data were re-examined for the final construction of each theme, using all the material relating to it.
9. Reporting each theme:  
The name of each theme was finalized, and a description was written and illustrated with quotations from the original stories to help communicate its meaning.
10. Final confirmation from MN-S Research Team:  
The MN-S Research Team had one month to read the entire document and provide suggestions and feedback for inclusion in the final document.

#### **4.10 Strength and Accuracy of Research**

In qualitative research, validity (also known as credibility and/or dependability) refers to how well the research reflects the participants' reality. There are a number of strategies for establishing the strength or accuracy of qualitative research that helps to demonstrate credibility. These strategies include member checking, collaboration, description, and self-reflection (Creswell & Miller, 2000).

##### **4.10.1 Member Checking.**

Member checking included reviewing the transcriptions of the GMB workshop Sharing Circle and storytelling evaluations, and seeking permission from the participants and MN-S Research Team to confirm their accuracy. Once approval was granted, the student researcher sought permission to use the knowledge. Interpretations and analysis of the knowledge was returned to each participant and MN-S Research Team member to confirm that the information

represented their understanding and perceptions accurately. Each participant and MN-S Research Team member was asked if the themes identified in the knowledge analysis stage made sense, and to comment or include additional information. If they wanted further information included, the student researcher added the information into the final written document.

#### **4.10.2 Collaboration.**

The community-based research team approach was used from project inception and carried throughout all aspects of the research up to and including dissemination. The MN-S Research Team was involved in the research as equal members and co-researchers of this research project. The length and close nature of the collaboration ensured that process experiences and deliverables, as well as substantive outcomes and deliverables, were accessible to community stakeholders throughout. The MN-S Research Team gained research process outcomes, such as a research Collaboration Agreement, an MOU template, and an ethics application that can be carried into future collaborations.

#### **4.10.3 Description.**

The researcher wove the ‘voice’ of the participants and the MN-S Research Team into the text of the dissertation by using quotes and stories to illustrate the results and findings. This helped to present a rich account of the stories and themes that correctly represented the participants’ and MN-S Research Team’s reality. The researcher strove to remain open to all individuals’ perceptions rather than attach her own meanings to the experience.

#### **4.10.4 Reflexivity.**

Reflexivity is the appreciation that it is impossible for the researcher to remain outside of her own subjective being while conducting the research. Reflexivity provides a means of strengthening transparency and the quality of the research (Creswell, 2003; Kovach, 2009). I therefore explored the ways in which my involvement as a researcher influenced this study throughout the research process, and how my Métis ways of being, doing, and knowing informed this research. I kept a journal to assist me in reflecting on how my identity, interests, values, commitments, experiences, and beliefs shaped the research. Journaling allowed me to identify how the research influenced me on a personal level and as a researcher. Field notes were taken by the researcher throughout the entire research journey. I hand-wrote mental notes, and descriptions of ideas, suggestions, and conversations I had with the MN-S Research Team, my

supervisor, and my co-supervisor. All field notes came from face-to-face interactions, telephone conversations, and emails regarding the research topic. As well, I sought personal support from a Métis Elder and community member to ground me throughout the research endeavour.

#### **4.11 Anonymity and Confidentiality**

All individuals involved in the research consented to have their stories (verbal and written), names, and photographs used within the research. While anonymity and confidentiality are usual practices for western ethical processes, all individuals including the MN-S Research Team and GMB workshop participants agreed and consented to have their names, positions, and stories shared and linked to their real identities. This is a Métis ethical process and this is Métis research - part of the reciprocity process: being given stories and having responsibility and accountability to people's names.

#### **4.12 Knowledge Dissemination**

Western science outlines knowledge translation (KT) as the interactions between researchers and knowledge users. Health care workers, community members, researchers, and decision makers engaging in the exchanging of knowledge must commit to ongoing interaction, collaboration, and exchange of ideas (Government of Canada, Canadian Institutes of Health Research, Knowledge Translation, 2008). As a Métis person I do not have an isolated process called KT because everything I do is rooted in engaging in relationships. As such, my entire research process has been and is embedded KT. From my Métis stance, KT is a given; it is assumed because the research is part of me, and the sharing of it is on-going and forever. Just as my research relationships are continuous, so is KT. In my community I naturally talk about the research process through my relationships and networks. I am part of a larger Indigenous research community that allows for extensive networking and collaborative relationships. Connecting with this larger research community allows me to connect with, write, and talk about my experiences. Networking is important because it is a way to meet new people and communities who share common interests and/or activities. These interactions are a great way to allow for conversations to flow, which creates opportunities for education, guidance, mentorship, support, and friendship. Building networks is about building relationships, knowledge, and databases that are based on the principles of relationships and connections. Networking helps to create opportunities for information sharing and the exchange of knowledge (Smith, 1999).

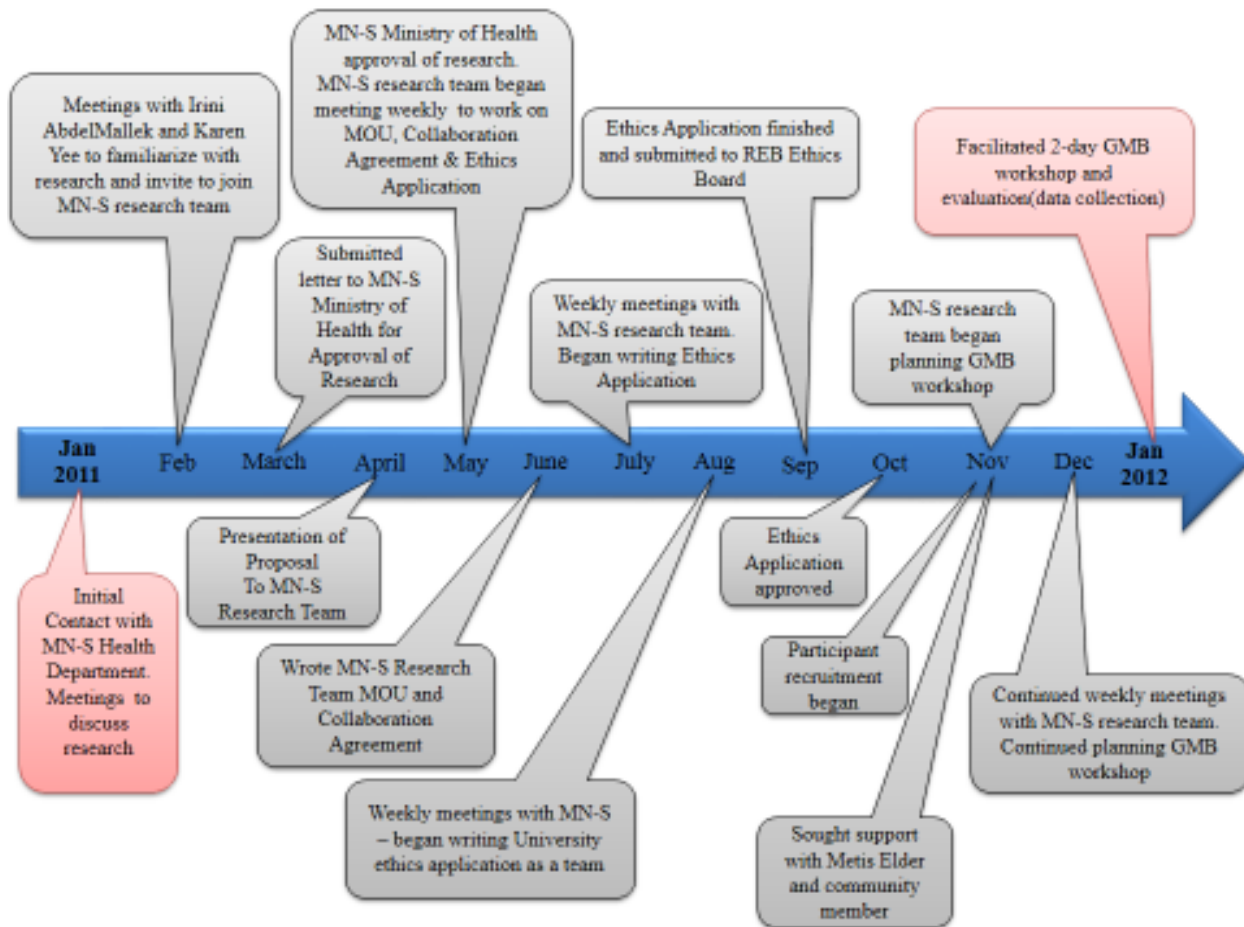


The knowledge gained from this study was disseminated in a variety of ways. The study informed the student researcher's thesis, in partial fulfillment of a Doctorate of Philosophy at the University of Saskatchewan. A final report of the project was compiled and made available to the MN-S. This report was made available to participants through the MN-S Health Department. Other forms of dissemination will be determined in consultation with Tara Turner (MN-S Director of Health). Dissemination activities may include presentations at MN-S locals, affiliates, partners, and applicable Métis Health conferences and workshops provincially and/or nationally. The student researcher in collaboration with the MN-S Director of Health will present papers and/or posters at numerous appropriate academic conferences or other venues, and may publish in relevant journals (e.g., *Qualitative Health Research*, *Social Science & Medicine*, and *Journal of Aboriginal Health*). A Summary of Deliverables is as follows:

- The written dissertation to fulfill partial requirements of a Doctorate of Philosophy at the University of Saskatchewan.
- A summary report made available for the MN-S.
- A summary report made available to each MN-S affiliate, organization, and Métis local of the research results upon request.
- Academic publications that contribute to the GMB method, Métis research ethics, Saskatchewan Métis health literature.
- Presentation within department (CHEP) academic conferences or other appropriate venues.

#### **4.13 Project Summary**

Figure 21 is a visual depiction of our collaborative process of creating and building our research relationship and project. This project took approximately one year, from the point of meeting Tara Turner and discussing the initial project to facilitating the two-day GMB workshop.



**Figure 21. Process chart.**

(Figure created by A. LaVallee using Microsoft Word)

In chapters Five and Six I present the results of this research. Chapter Five includes the evaluation results, which are broken up into two sections; the first reveals evaluation results on the research process by the MN-S Research Team, and the second exposes the evaluation results of the GMB method by the workshop participants and MN-S Research Team. Chapter Six introduces the causal loop diagram created during the two-day GMB workshop and improved by workshop participants and the MN-S Research Team weeks after. Next, I provide stories of TB shared during the Talking Circle, which have two main themes titled, *Intergenerational Stories of Trauma* and *Intergenerational Stories of Culture and Tradition*. I end Chapter Six with a composite narrative that connects the causal factors identified within the causal loop diagram to a story of a woman named Ida.

## **Chapter Five: Converging Paradigms, Methods, and Tools**

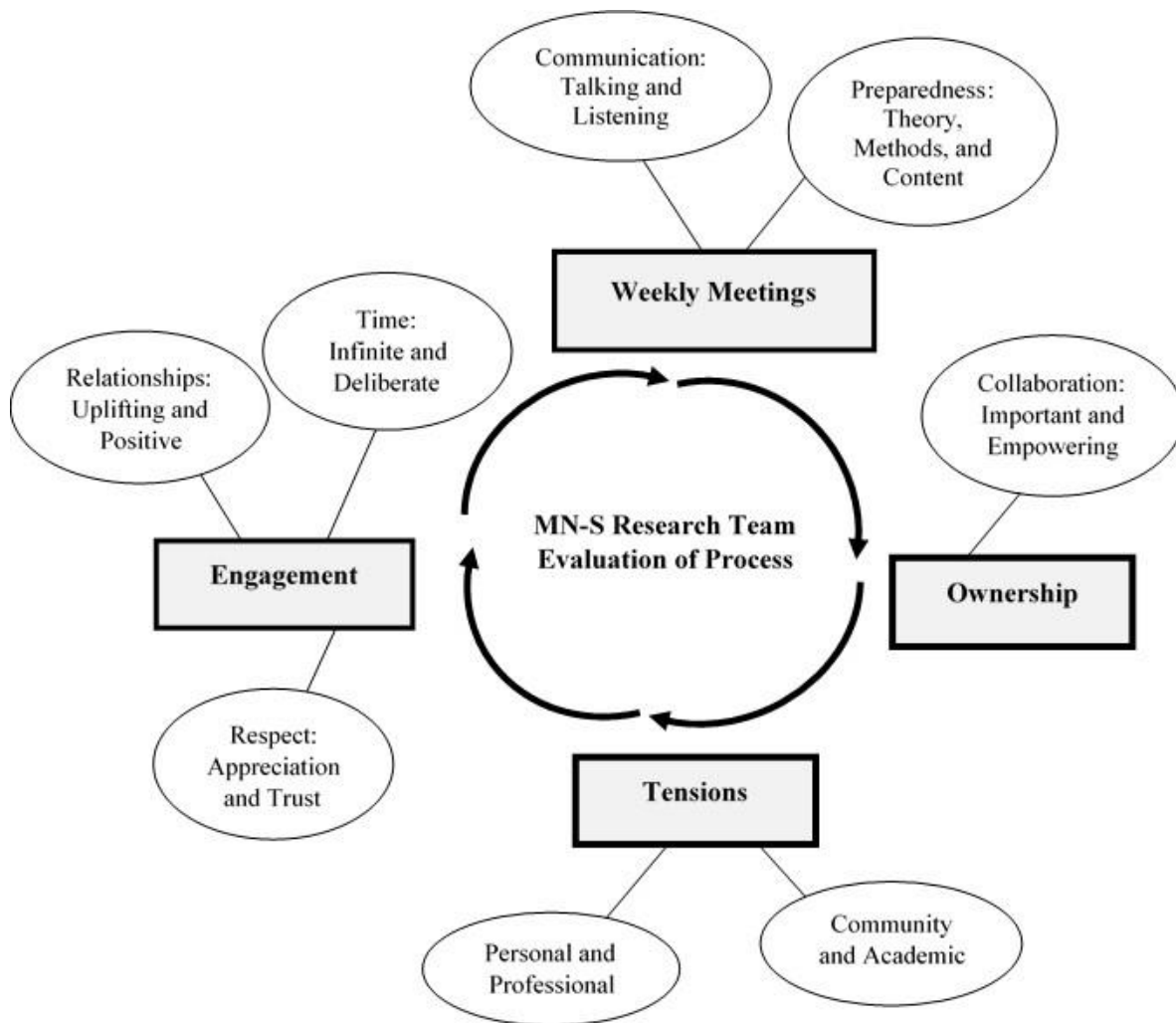
The objectives of this research were to intersect Métis and western health and research paradigms and apply the philosophical and methodological intersection to produce new understanding regarding TB in Saskatchewan Métis communities. As such, the MN-S Research Team modified the system dynamics paradigm and GMB method (the methodological intersection) to ground them in a Métis health and research paradigm and methods to understand Métis experiences of TB. The research process and the outcome of the GMB workshop was then evaluated using a storytelling and story listening method that explored the appropriateness of adapting GMB within a Métis research context. Essentially, this evaluative knowledge produced results that exposed what methods and tools within this research project worked, which ones did not, and why.

Chapter Five is divided into two sections. The first considers the experience of the MN-S Research Team throughout the research process from inception through to the production of this dissertation; the next section focuses more narrowly on the GMB workshop as a method and knowledge collection tool, and considers the experiences of both the research team and the participants. The MN-S Research Team and GMB workshop participants were immersed in the research process and outcome, and therefore they have considerable experience and knowledge that contributed to the evaluation, thus, answering the research questions.

### **5.1 MN-S Research Team Evaluation of Research Process**

Our first opportunity to systematically reflect on the research process occurred when we had been working as a team for six months. We were asked to present, via video-link, to a group of students, professors, and community members interested in our GMB process at the Social Systems Lab, in St. Louis Missouri. Each member of the MN-S Research Team created a document capturing their perspectives and experiences, which guided the story they shared during the oral presentation. While unplanned as part of this research, the invitation proved to be an extremely valuable opportunity to reflect on the process to that point and refine our process. We were able to uncover and communicate how we engaged in ethical, competent, culturally appropriate, and relevant Métis health research. This presentation assisted in our development as a research team and in our implementation of a Métis-specific GMB workshop.

Our second reflection occurred during a formal evaluation at the end of our GMB workshop. At this point the MN-S Research Team participated in a storytelling and story listening process that further revealed their experiences, opinions, and suggestions regarding the project process overall and the adaptation of GMB to our Métis context. Moreover, field notes were taken by the researcher to remember and record any behaviours, activities, conversations, emails, events, and other features of our collaborative research project. These aided in the knowledge analysis of the MN-S Research Team evaluation of the research process. Figure 22 depicts the themes and sub-themes of the MN-S Research Team evaluations of the research process.



**Figure 22. Themes & sub-themes.**

*(Figure created by A. LaVallee using Microsoft Word)*

### **5.1.1 Engagement.**

Engagement refers to the long term commitment and process of actively including, involving, and maintaining the MN-S Research Team's input in the project from its inception right through to completion. Engaging required a genuine commitment to listening, learning, caring, communicating, and participating by all team members to shape and inform the research project. This process was not about consulting the team after a decision was made, it was based on transparency and inclusion every step of the way. This created a research environment that was grounded in relationships, allowing the process to be uplifting, positive, and respectful. However, our process of engagement took considerable time; this was deliberate because it allowed us to be involved and dedicated to each other and the research on a personal and professional level.

#### ***5.1.1.1 Relationships: Uplifting and Positive.***

Because we took the time to build relationships with each other, we realized that it was the foundation of our organized research effort. Therefore, we increased the likelihood of our successful collaboration by establishing sound relationships with each other early in the process. Tara disclosed,

...I think we just get wrapped up on what we were supposed to do every day, and because we have so much to do and deadlines, that I think this research was daunting in some ways, but when you just experience it, it's not, it's uplifting, and you can feel good about it because of those relationships, and so that's what kind of drives it, those positive relationships....

Building a trusting relationship with all members of the MN-S Research Team created a research environment rich with investment and loyalty. Cheryl stated,

...I feel fully invested in it, that your research, your dissertation would not have happened if we couldn't create this research relationship. And so it is many ways all dependent on that. What's going to make good research, is that we're all invested in it, and we all feel good about it and feel passionate about it...So I think it's a lesson that we should try and take to the other work we do is that we

need to make sure we try to build relationships and if we can't, it doesn't mean that the outcome is not going to be good, it's just that it's not going to be as good and as ours intrinsically is.

Each individual within the MN-S Research Team offered different viewpoints, unique perspectives, and world experiences that added to our dedication to each other and the research. Irini commented,

...building relationships on a personal level was a maximum benefit...just knowing everybody's faith, everybody can talk, everybody can be listened to and knowing that we were there for another had positive impact on the work we were doing. Our team was very decisional, I believe we were all dedicated, we were all having fun at the same time and we care to know about one another and about the Métis population. So very enriching in my own eyes...

This research project stressed that the process was just as important as the outcome. Without process and its documentation, it would have been difficult to know what made the outcome of our research good or bad. Cheryl mentioned,

...I'm so much happier with this process 'cause I really I think everything comes down to the relationship, like I really do, I think it's all about the relationship, it's not about anything else...I think, the research, when you write it up, is, all of this relational stuff, and then at the end, there's the TB, right? It's not about that, it's not about the TB, right? It's about the process....

Please note that Cheryl's quote is not intended to minimize the main issue of looking at TB in Métis communities. It emphasizes that our relational research process helped us get to the point of creating a causal loop diagram on TB that resonated with our Métis team members and workshop participants.

As a team we acknowledged that relationships are two-way streets: the give and take of being there for each other when needed. Knowing this provided us with a sense of security and reassurance, which furthered our investment in each other and the research. Amanda stated,

So, one thing I've always known in my life is to build relationships and that's the most important key. Because once a relationship is built, it's forever and there's such a sense of community and safeness in that. I know, I have your back, you have my back, through thick and thin, regardless, beyond this research, it's more than this research but it takes a lot to walk into that role, it takes a lot to be that, be present...

Building and maintaining good personal and professional relationships took a lot of work, but it was absolutely worthwhile. Cheryl remarked, "...relationships are like getting glued to the gym. You don't want to drag your butt out there. But you do, and you get there and you're happy."

As a team we understood that relationships do not just 'happen', they are cultivated and developed over time. Our relationship started out tentative with unknown and undetermined roles and expectations, however it developed strength based on our time and experience with each other, thus maturing into a trusting relationship. Cheryl reflected,

I feel that GMB and this research project offer an opportunity for Métis individuals to come together to share their stories in a safe and trusting environment. And while, I know little about GMB, I feel that this is possible because of the nature of the relationship that we have created between the research team.

#### ***5.1.1.2 Time: Infinite and Deliberate.***

The concept of time is typically looked at in terms of the day-to-day, hour-by-hour, and minute-by-minute. Nevertheless when it came to building our relationship, time needed to be indefinite. As a team, the more space we created for spending time with each other, the more our relationship grew. Karen revealed,

Another thing I learned about relationship building is the concept of time associated with it...Many of us have meetings – groups of people coming together in various capacities to engage for an hour, monthly, maybe yearly. I had this conversation regarding a group model building workshop that was held this summer. People came together for two days to do a GMB exercise as

opposed to Amanda's project where we've engaged for months. Certainly different perspectives and value gained from having both. Sometimes it's impossible to do what Amanda has been able to create here given our fast paced world, but I have seen so much value in taking that time. Time is finite, but relationships are infinite so I embrace my life now (thanks to this research project) to strive to make my time infinite with every relationship I build along the way.... (K. Yee, personal communication, November, 18<sup>th</sup>, 2011).

Every relationship, personal or professional, requires significant investment. Each member of the MN-S Research Team dedicated over 100 hours of their time in developing our research relationship and project. It was a lot of hard work, but it was ultimately rewarding. Cheryl articulated,

...it's been many months, and I'm not going to lie to you, the idea of two hour meetings once a week, was getting a little bit much, 'cause of all the extra stuff we had to do, and yet like just knowing that two hours we're going to end, but then you get there and it's like, "huh, this was good, right?"

Building our relationship needed cultivating in order to grow and develop into something that was valued and appreciated by each team member. It was a process that required patience because in our fast paced lives, sometimes we lost our patience and limited our time and consequently, lost valuable potential relationships. Karen remarked,

We are all in such a rush but I think you guys made me realize how much value it is to just sit down and relax and just go with it because I am such a time thing, you know, we need to stay on time, because I value my time as much as everybody else values theirs but I realized that through this process that time is being used, but it's how we use it during that time even if it is 20 minutes of waiting for somebody, it is still doing something of value...

With frequent interaction, consistency, follow up, remembering things that were said, taking notes, sharing stories, food, and culture, we were able to engage and connect with each other. This is what made the difference in building our relationship. Irimi mentioned,



We found the time for sharing of traditional foods, stories, history as well as our own cultural protocols and ceremonies. We created a shared understandings and spent time discussing our cultural similarities and differences. Overall it created a welcoming and trusting environment where we learned from one another.

As a team we had a choice regarding how and when to engage. For our project we chose to take ample time to build strong connections with each other. Karen shared,

...you can categorize different types of relationships in different ways but if I had my choice and I can spend so much time to help relationships, like we did with this project, I would go with that all the time.

The MN-S Research Team understood that as health workers, educators, and researchers, we should not be working in isolation when it comes to Métis community health issues. Therefore, each team member deliberately dedicated their time, attention, and self entirely. This was important because no one lost sight of our process goals, which enabled us to succeed at our outcome goal, which was developing and facilitating a Métis specific GMB workshop.

#### ***5.1.1.3 Respect: Appreciation and Trust.***

Our team members were from varying cultures, education, and experience, therefore learning about each other's ways of being, doing, and knowing was vital to working together as a team. Respecting and appreciating each team member for their diverse education, knowledge, and experience was foundational in building our strong research relationship. Irini shared,

...I believe respect has been there since our very first meeting we sort of gave one another the needed respect and I came from a totally different culture and different country, different experience, however I truly say that I have been respected all the way through.

Being respected by other team members indicated a positive standing within the group and allowed us to have a sense of belonging, group cohesiveness, open communication, and cooperation. Karen stated,

This process and team has worked well for us...because we had time to get to know each member of the team, to build relationships and trust and respect, and

an appreciation for the strengths that each of us bring to the table – as individuals, researchers, and cultural people.

As a team we inherently understood that respect stands at the heart of every relationship. Respect was sustained by considerate and consistent personal and professional interactions. Karen said,

Learning about Métis culture from Tara, Cheryl, and Amanda have been a highlight of this project, as well as learning about the Egyptian culture from Irini. I was born and raised in Canada and the Métis people have occupied this land even before I was born, yet I found until I met Tara, Cheryl and Amanda, I was very ignorant of their cultural background. In one of our meetings Amanda showed us what a smudging ceremony involved, I don't think I ever told her how much I appreciated that and how much it impacted me... (K. Yee, personal communication, November, 18<sup>th</sup>, 2011).

Respect requires caring and empathizing with another person. To respect someone we must be aware of their feelings and view them as equal. When we show respect for each other, it means that we value them, and that their knowledge, advice, and suggestions are important (Kovach, 2009).

### **5.1.2 Weekly Meetings.**

Our weekly meetings were scheduled and facilitated to help team members feel competent, clear, and connected to the research process and one another. This involved brainstorming, reviewing, and sharing ideas on planning of the two day GBM workshop agenda, scripts, activities, food planning, location, roles, and time. This process was crucial as it provided the opportunity for consistent and transparent communication and consent, accordingly allowing team members to feel prepared.

#### ***5.1.2.1 Communication – Talking and Listening.***

Developing good listening skills was just as important as talking. Transparency in communication helped build a cohesive and effective MN-S Research Team, as well as maintaining good relationships amongst our team members. Therefore, our weekly meetings provided a clear understanding of what was required and what was expected. Irini mentioned,

When it came to us as a team in communication I believe we gave one another the opportunity to talk, we in general listened very well to another. We paid a lot of efforts and time and knowledge to understand everybody's theory and everybody's belief. Even when we had sort of like a disagreement about a mishap or two we would sit there and say you brainstorm and say this would be better for those reasons this will be a bad idea let's just omit it. And I think all the time it came to agreement...

We shared our voices and opinions knowing it was for the betterment of the research process and outcome. As a research team we valued the integrity and transparency of our members. Karen shared,

...I think yes [the weekly meetings] improved communication between all of us and it opened the window as well for improvement. Accepting the other's opinion and trying to work on our communication skills better and respect cultural issues....

Key to the establishment of our trusting relationship was openness in communication, follow-through on commitments, and an understanding of the team's and student researcher's expectations. Within this environment feedback, suggestions, and interventions we welcomed. As such, our research team was confident and comfortable using direct language. Cheryl stated,

.... some of that that was important too, at least in the beginning [the weekly meetings]...you brought us all together and said you are all part of this, this is the way it's going to be and I think that's part of the reason why we felt so confident, sort of in directing you so much. Because I know we did a lot...we were like, "no, this is the way it's going to be," or "this is crap,"

Communication amongst the team members also meant exploring and sharing stories about ourselves. Telling stories provided the opportunity to gain a deeper understanding of each other and ourselves. This was a powerful foundation for our spiritual, personal, professional, and research development. Irini shared,

As a person I'm known of being a story teller myself and what attracted me most in that process is the storytelling part. Yes it was fascinating to hear the stories or about the stories. It was fascinating to share our experiences as well as our ideas and in a story telling fashion where the atmosphere [at our weekly meetings] was very relaxed everybody spoke, told her story and this made the difference. This made our work different in many ways, it is not just about the facts of what happened no it's what happened and how did it affected us....I learned a lot more than just TB, I learned more about the social aspect of the Métis Nation, the history, the culture, interests and overall storytelling made it a more enriching experience than I have ever imagined or envisioned....

Clear, concise, and consistent communication was the key to our team having a great personal and professional relationship. However it was important for us to remember that communication is a two-way street with a balance of talking and listening. For that reason, we encouraged and roused our conversations through listening, teaching, teasing, debating, storytelling, and joking.

#### ***5.1.2.2 Preparedness: Theory, Methods, and Content.***

In the process of preparation, we thought through what we needed to do, took notes, made to-do lists, sought guidance, studied, and rehearsed. We also thought about alternative solutions by playing out any “what ifs” that could happen during our GMB workshop. Being prepared provided us with the confidence that as a team we were ready to facilitate our two day Métis specific GMB workshop. Tara shared,

...we were well prepared because we did a lot of work upfront planning for it. We spent a lot of time together going over it and you really involved us in everything so, from reviewing the scripts to having input into the content, all of that stuff, and because the process, the circle, because we were all familiar with that, we all knew what that entailed....all of that kind of stuff made us better prepared because we knew what to expect.

Understanding the theories and concepts relevant to the research was important. Moreover, a firm grasp of the methods utilized was necessary, because each team member was

fundamentally involved in organizing, facilitating, and participating in the GMB workshop. Karen expressed,

...We talked a lot about the concept of the research, the methodology and the Métis population, the culture. We as well spoke about how the Western culture and the Métis population are intertwined and interlinked. Which I think was the main idea of the research is to show or to come up with a way to elaborate or to identify the differences between the culture as well as the intertwined relationship.

A common understanding was necessary in order to work as a team. Therefore everyone required contextual knowledge in the Métis history, culture, and health status, and TB. Irini shared,

...I needed to learn about the Métis culture I needed to learn about the social and some of the health issues that they [the Métis] have been dealing with. All of these factors that might lead to TB in general, as well as I had a vision of how the workshop should be run...yes I did have a good preparation time even though each time we met it seems that there was something new to learn about and prepare for. But the overall concept and or idea was very well understood to me.

All team members were considered knowledge contributors, so for that reason each individual took turns at our weekly meetings sharing their expertise and knowledge relating to the research theory, content, and methods. Everyone had an opportunity to share their suggestions, amendments, and improvements in the development of our Métis-specific GMB workshop. Irini disclosed,

...I personally I think that I had a very good mental image of what I was supposed to be doing. It took a long time to prepare for the workshop...I had a chance to provide my input when it came to the design of the workshop. When it came to who should be doing what, and in terms of how many modellers should be handling this, who can facilitate better than the others, so I had good input.

Being prepared meant that we were able to collaborate on our thoughts, ideas, knowledge, concerns, and suggestions regarding performing a certain job, carrying out a duty, or executing a task with greater confidence. As well, preparation allowed us to address any thoughts of the unknown, so that team members felt more confident and comfortable with the theories, methods, and content rooted in and driving this research. In essence, it increased the likelihood of a successful and productive research relationship and GMB workshop.

### **5.1.3 Ownership.**

Our Métis research process was marked by a collaborative and agreed-upon decision-making process that enabled the MN-S Health Department to have ownership over the research. For that reason, they were at the centre of the process, taking greater control over the decisions and activities related to the research process.

#### ***5.1.3.1 Collaboration: Important and Empowering.***

Collaboration was the practice of involving all team members in creativity, decisiveness, leadership, responsibility, accountability, and decision-making during the research project. Ultimately, this led to feelings of ownership of the project. Cheryl shared,

I don't think we have ownership over some things, the same way as we do over this. And, I think for us, I think that's really important because we need to, as the Métis Nation, we need to feel ownership over the research we do on behalf of the community, otherwise, it's not useful to community...other places where we don't think we have that control, it's not as good of a feeling, like we don't feel as invested, we don't feel like we know what's going on...and then how do you advocate for that at the community level, if you feel like that. Not that it's necessarily bad in those relationships...it's just that we don't really know what's happening. And so we're not really included in the same way....

The MN-S Health Department reflected on the many research relationships they had had in the past. How we engaged as a team was very different from other MN-S Health Department research engagements; our project provided a positive contrast to others. Tara shared,

...Yes, I think that's given us a really good contrast to much of what else we do here and maybe it sort of helped highlight the things we do want to do, and the

things we don't want to do, and what we want that to look like and feel like despite the intensity and the amount of work. I mean it kind of had to be that way, and I feel, I know how much time you put in that, I know how much effort you put in to making that happen and keeping us on track. This is our research project and not your research project...and I don't know that that would have happened and that was really empowering, like for us, I think, as an organization...

Collaboration meant that throughout this research journey I was mindful of the words I chose to use, consistently reinforcing to the MN-S Research Team that the research was not MY research. I reminded them that this was OUR research; that WE were responsible and accountable to each other, the participants, community, and university. Tara indicated,

...Amanda has worked hard to make this a collaborative event – correcting me when I call it “her research” and making sure that it is a joint effort with everyone involved. I trusted Amanda to choose good people for the team, to do good work, to be respectful, to take care of the team, this project, the MN-S Health Department and our larger Métis communities.

#### **5.1.4 Tensions.**

Our research process was not free from tension. Some of the team members struggled with their beliefs surrounding the appropriateness of blending personal and professional relationships, as well as the clashes they experienced between their community and academic beliefs and knowledge.

##### ***5.1.4.1 Personal and Professional.***

Team members shared that when they are at certain meetings, conferences and working groups, conversations are strictly kept within a neutral zone of the meeting proceedings or the research at hand. However, within our Métis research context, we honoured the relational space between one another by sharing stories of our personal lives, including where we grew up, our family, language, customs, and beliefs. Yet, sometimes in professional settings this would be deemed inappropriate. Karen shared,

.... I feel like, I'm sharing too much or people know me too well and they're not supposed to...they're not my friends, they're supposed to be my colleagues and there's that tension and I think that probably everybody feels that...“Is this very professional?” Professional sometimes I struggle with that, even at work now, like how much I tell them about my life....but how do you know that person as a person?

Sharing our personal and professional stories helped us to teach, influence, support, and connect with each other. Although all members of the MN-S Research Team stated that this research project would not exist if we did not have strong relationships with each other, some members still struggled with sharing their personal lives. Amanda indicated,

Many times throughout the journey I was fearful of the possibility that I would be deemed a failure, incompetent, unprofessional, and not Métis enough. I will admit, it was not easy or enjoyable at times. ...

Karen recognized that at times in her own personal and professional life she had tried to maintain a work/life balance by separating who she was from what she did. But when it came to being a research collaborator in this project, she realized the connection between the two was essential. She stated,

Since April when we first started meeting, my own personal views of relationships have changed...I see relationships in the western world having two arms to it: personal and professional. Until this research, I always believed we should keep the two separate in our lives, but now my thinking has shifted completely. I realized through our process of engagement that relationship building has to be the flow of both. What makes us professionals is shaped by who we are at a personal level. To understand a health issue that is so deeply personal how can we possibly just keep it professional in a research project on health? (K. Yee, personal communication, November, 18<sup>th</sup>, 2011)



#### ***5.1.4.2 Community and Academia.***

The MN-S Health Department stated that as Métis academics living and working in our communities, we are faced with tensions between our community knowledge and our academic training. Tara revealed,

...you have to be vulnerable, you have to be open, you have to feel pain, you have to be able to experience people's stories and feel their pain when they tell it to you, and it's quite different than being, clinical or academic. It's moving towards that healing role and that requires vulnerability from you...And, I just don't see how you, being in a community any other way other than openly...I've been to a million meetings, if you learn to say I have kids, or a dog, that would be like amazing amount of information, but in community, working in places like this [MN-S Health Department], you don't get that luxury, you're not allowed to be sealed off...

The MN-S Health Department acknowledged that building relationships was vital to engaging in research with and within Métis communities. Our research process provided the MN-S Health Department with insights into the differences between relationships that they have had with other university research projects, and the lack of meaningful academic relationships they have had. Cheryl discussed,

...nobody really does this, nobody takes the time to build these kinds of relationships because usually when you go into community to do research, you go in, you create a few relationships and you leave, right? And, you're invested in it, and it's your community and we spent all of this time together, creating the relationship that's why I think that's what's going to make it different, and make it really powerful and that you can share like that, because academics don't do that, right?...And so, I feel totally different about this relationship and this research we're doing than research that we have done, you know, with others, in the university setting, because we don't have the same kind of relationship. In another instance, I don't feel as in the loop and I don't feel they were as much a partner in it, but, in this, I don't think we could have done it any other way....

The MN-S Health Department staff are academically trained with Master's and PhD degrees. As such, tension arose during this project due to the realization that our Métis research paradigm is very different and often conflicts with a western research paradigm. Tara articulated,

...the western versus Indigenous frame of research is that there is no unbiased observer, there's no kind of double-blind. It's like you're all in it together and again, it's not about where it goes, and it's about just going there. Well, in the academic training...it's so heavy on that side, that it's actually really difficult to pull off and do it this other way and to keep training your brain back to process rather than product, and sort of operationalizing....

During this research project, as a PhD student trained within the academy, I thought a Métis research paradigm would not be deemed as valid as a western paradigm. Therefore, I felt a consistent struggle between my feelings of legitimacy within my community and those within the academy. During evaluations Amanda shared,

I'm Métis and I still struggle - how we're trained in the academy and then how to be in the community. It's always negotiating, or walking that balancing act...what we're trying to do is connect the Western and the Indigenous way but there is this grey zone of facilitator-participant. And the switching of roles but also just the fluidity of it and negotiating that, right? And so, me wavering in between Ph.D. student and community member or Ph.D. student and participant and negotiating and constantly struggling in my head of, "am I doing it right?" and then reminding myself "I don't need to do it right." Because however the group does it, is right.

Through this research project, my community and research life became one; my Métis worldview intertwined with my formal health research education. Because of this, I often felt vulnerable. Amanda reflected,

...I went through the fear of failure in community, the fear that I am going to disappoint all of you guys or the fear that the Elders are not going to accept me, the fear that if his research, if the workshop bombs, it's my fault. I don't even care if I fail my Ph.D., but I just didn't want to fail you guys...this is bigger than

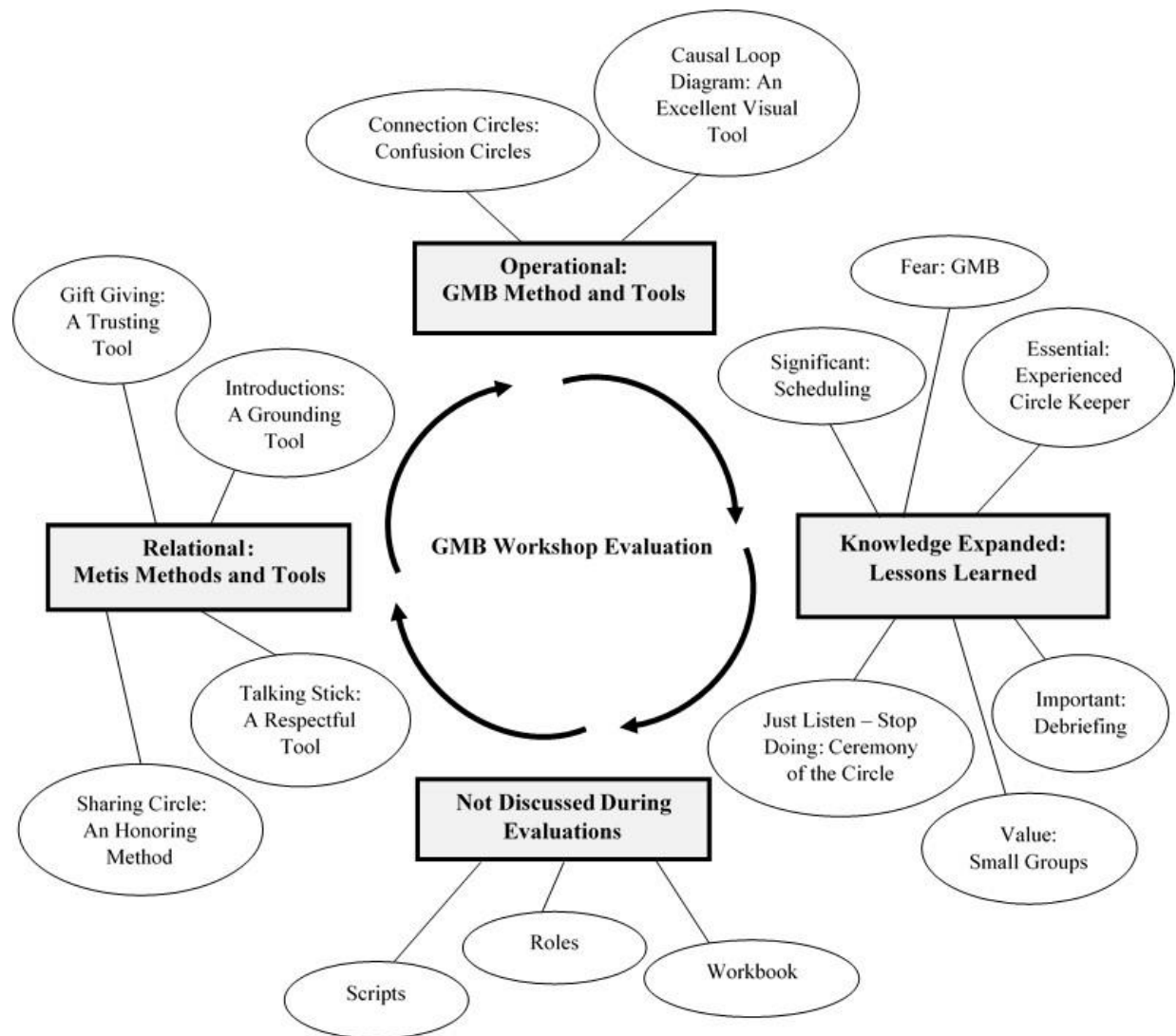
the research; it's this community accountability and responsibility. And, it's fun, it's overwhelming, I love every moment of it but, it's hard to remove sometimes the emotion because I'm so invested in community...

## **5.2. GMB Workshop Evaluation**

From a Métis relational paradigm and a system dynamics paradigm this project created an opportunity for the participants and MN-S Research Team to explore the transfer of experience and ways of knowing from one knowledge system to another, integrating Métis with western methods and tools. The Métis method within our workshop included engaging in a Sharing Circle. The tools that were used to facilitate the Sharing Circle included providing a gift, tobacco offering, opening prayer and smudge before participants arrived, storytelling and listening of personal introductions to learn about each individual, and the use of a talking stick. The western method used during this workshop is the GMB method. The tools we used to facilitate our GMB workshop were the use of scripts, GMB roles, connection circles, and a causal loop diagram (with the use of Vensim® PLE<sup>30</sup> computer program). This evaluation explored the processes of learning that occurred by adapting a western research paradigm into a Métis research paradigm and converging associated methods and tools. Below are the MN-S Research Teams and workshop participants' reflections on the Métis and Western methods and tools used to understand TB in Métis communities. Figure 23 presents the grouped themes and subthemes revealed in the participant and MN-S Research Team evaluation of the GMB workshop.

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<sup>30</sup> Refer to footnote 27 for further definition of computer program.



**Figure 23: Evaluation of GMB workshop.**  
*(Figure created by A. LaVallee using Microsoft Word)*

### 5.2.1 Relational: Métis Method and Tools.

To begin our workshop the MN-S Research Team had to engage in specific protocols (or use specific tools) in order for the Sharing Circle to be a respectful, honouring, and trusting method. The Sharing Circle required Métis tools (protocols) such as smudging and praying in the room prior to participants arriving, a gift and tobacco offering, and storytelling and listening to opening introductions. These were the protocols we used to honour relationships and show respect and reciprocity. This was an essential process because it set the entire research intention and environment, allowing individuals to feel safe, comfortable, and to trust the process.

### ***5.2.1.1 Gift Giving: A Trusting Tool.***

Gifts are considered tokens of appreciation, acceptance, respect, reciprocity, bonding, and unity (Roberts, 2005; Settee, 2007). Providing a gift at the beginning of the workshop, before introductions, demonstrated my recognition and commitment to sharing. The participants and MN-S Research Team shared their time, experiences, and stories, and in exchange were provided a gift. Jannica shared,

...Having something like a medicine bag and the homemade jam and things to take with you, it wasn't just a token it was a moment of the experience but it really helped to solidify that reminder that it was about the relationship building and the storytelling and that's really why we collect research...

Giving a gift to the workshop participants and MN-S Research Team helped to define our collaborative connection and relationship. Moreover, it established a trusting environment for all to share as a united family and community. Jannica reflected,

So that [gift giving] really grounded the whole process and it helped to build trust in the process of sharing and feeling comfortable with sharing more and continuing to participate....

### ***5.2.1.2 Opening Introductions: A Grounding Tool.***

Ample time was allowed for introductions for the participants and MN-S Research Team to create a relational space between each other. All individuals had the opportunity to share stories themselves: who they are, where they work, educational background, and where they come from. Introductions in a Métis way also included current, past, and future stories and memories of their family, customs, traditions, relations, and their land base. This grounded our workshop with relevance and reciprocity, allowing us to honour research as ceremony. Participants made known,

...Yes I found that the opening introductions and opening remarks were a nice way to regroup with the participants and the people involved and made me feel comfortable before opening up and talking about personal issues...I think that something that was a really nice balance to the heart after opening up, heartfelt

experiences that were not just my stories but stories I was telling on behalf of family members too [Jannica].

...there was a level of trust there that came from the jokes, the teasing, the sharing of personal and professional...the fluidity of those relationships... [Amanda]

### ***5.2.1.3 Sharing Circle: A Holistic Method.***

The Sharing Circle was a fundamental Métis research method that allowed the GMB workshop to be respectful of Métis ways of being, doing, and knowing. The Circle process supported all individuals in holistically linking their emotional, spiritual, mental, and physical experiences and stories of TB. Inherently, all members participating were familiar with and trusted the Circle process. They stated,

...I think trust in the circle as a method was understood by participants and that is part of the reason that it worked so well. If we just would have had a “focus group” or something, it might not have had the same result. There is power in terminology and naming from our own understandings. Part of the power of the circle is that trust is created, and a relationship between participants – a very useful method for GMB when conducted using the proper protocols, understandings and respect [Cheryl].

...The circle, it just answers so many things, it makes everything come together and it's a better and simpler research process, right, because it encompasses so many things in it and shares so many things that it makes sense to me to use that in lots of different context....And it creates some safety [Tara].

...the circle kind of equalizes everybody so I think we all; everybody has their own time to share....That no one person was more important....[Jannica]

Some of the valuable lessons learned through our Circle process were patience, the ability to listen, understanding, and open-mindedness for the views and stories of others. Jannica remarked,

...I think that [the Sharing Circle] was a really thoughtful way that we could have turned to telling stories and the fact that everybody around the table reflected what was reflected in the stories, and then commented on it was also a way that you felt listened to as somebody was sharing in the testimony...I think the ongoing involvement is something that I truly appreciate and the art of storytelling and compiling knowledge from people's stories and testimony. And it's not often always done but it's something that should be.

Regardless of our roles during the workshop, during the Circle each individual had the opportunity to share from the heart, whether it was a story of TB and Métis peoples or not. Cheryl stated,

...And what was beneficial was that the facilitator and the modeller also took part in that conversation and became part of the conversation so it wasn't, you know, one-sided, which I think is important. If we didn't follow that method that might not have happened, so it might have created a distance between the facilitator and the participants, right, but there was a relationship created through the process of everyone sharing their stories...

As the focus of our attention moved around the Circle, each individual had the opportunity to gain a shared deeper understanding, richer meaning, and an evolving story. Donald revealed,

... in a cultural context, in the idea of a circle, you become part of that circle and then it's all of our story, like the causal mapping, just sharing a story that we did, it becomes all of our story, right?

My cultural teachings have taught me that stories have a life of their own through the spirit of the story and the storyteller. I am reminded that stories are fluid, dynamic, and alive; they are not static. It is through stories that we come to know, understand, and teach. Individual stories became a group story. Tara indicated,

...it becomes very much your story as well, so I think that's something that, maybe, because we followed a Métis process, maybe then the role you take in,

becoming part of the participants rather than the facilitator, you become part of the circle.

The Sharing Circle method allowed us to create an encouraging and caring atmosphere based on trust and transparency. Because the Circle process was continuous, all participants had numerous opportunities to share what they were willing to. Cheryl stated,

...Creating the dynamic where there was trust and where there was a relationship created between everybody, that helped share their story....

My Métis culture has taught me that Sharing Circles help foster a strong sense of community, and this method aids in cohesiveness, collaboration, and social support among the participants. Jannica revealed,

I think as a group I felt like a team. I felt like we were cohesive and in communities in community setting it's very like my experiences. The dynamic of the group, I felt was very respectful like we were working together. I felt part of a team working together to sort through history and trying to figure out what picture we should collaboratively share or make....Cause I felt a very strong group cohesiveness and just a very respectful things that respectful sharing happened....

#### ***5.2.1.4 Talking Stick: A Respectful Tool.***

A Talking Stick (or more accurately a listening stick) empowers individuals to give their full attention to everyone else in turn, therefore bearing witness to their story, their perception and awareness. It is not necessarily the Talking Stick that provides this empowerment; it is the process of the Circle in which the stick is used (Archibald, 2008). Donald revealed,

...I've grown up using [a Talking Stick], we've used the feather, we've used a rock, we've used a stick and so that's part of my upbringing....it helps at the stage when there's important things to be shared and any time in my family situation there's an important critical, crucial conversations that are material that are going to be shared that have relevance. So it helps set the tone of sharing respectfully and also helps set the tone of not just sharing but listening and taking



in. And so I identified right away seeing that process being introduced I felt very comfortable and you know someone is going to start someone is going to share a story, I'll listen I'll start sharing my story, it had a very good tone... I like that communication style.

The Talking Stick was a reminder that all individuals in the Sharing Circle had to honour the space for the individual holding the stick to share their story. It served as a cue for all individuals to listen intently. Jannica shared,

...holding the Talking Stick and having that time and being able to own your story and trying to being able being given that chance to contribute which you know or what I know of TB in our communities. So I feel that my story was heard...

Talking Sticks are symbols used to help provide individuals with encouragement and wisdom to speak truthfully and consciously. They are also reminders for individuals to speak from the heart (Archibald, 2008). Jannica conveyed,

...One of the things I really want to say is I appreciate about this process as we pass around this talking stick, it kind of helps to hear everybody else's story because everything, it's like healing happens in stages and layers and these stages and layers and how we live, actually, we have to go through our spiritual lives and how good we feel in our heart, how we interpret things, your mental state and that affects our emotional wellbeing and all that stress, you know, impacts our physical body...

Our Circle went around four times, allowing individuals to share as much as or little as they wished. Watching the Stick get passed to each individual in the Circle kindled feelings of safety and comfort to share more. When the stick was passed around and an individual held it, emotion was evoked to share their stories. Donald expressed,

... sometimes I feel as a person that I have nothing to say, I have nothing to contribute and then... and when it's your turn, all of a sudden you have this opportunity to speak...things arise that you never thought would arise and I think

that's why, what was really neat about this, you are given that stick, you could easily pass it off but I think...to be able to share something and then seeing how everybody else has shared so openly, it somehow comes out so much easier, even if you are an introvert, you know? Because I think that's the whole safety thing – it was really a big issue here. That's what I really like about it.

My Métis culture has taught me that one of the most powerful ways to enhance any relationship is to take the time to sincerely listen. I am acutely aware that when individuals feel that they are not heard, resentment or withdrawal can occur, negatively impacting the relationship. Additionally, trust is difficult to establish when an individual does not feel listened to.

### **5.2.2 Operational: GMB Tools.**

As a group, the MN-S Research Team and participants co-created knowledge using the GMB method to understand TB dynamics within our Métis communities. With the use of connection circles and a causal loop diagram, the MN-S Research Team and workshop participants linked the relationships between the driving factors of TB within their community to create a story and picture from a Métis perspective and systems understanding. The connection circles seemed to be a distraction that caused much confusion, however the causal loop diagram was an excellent visual tool.

#### ***5.2.2.1 Connection Circles: Confusion Circles.***

Connection circles are tools that provide a qualitative view of a system by displaying the relationships among variables in a story, thus helping to increase individuals' understanding of dynamic systems (Ponto & Linder, 2011). However evaluation revealed that participants and the MN-S Research Team were confused with the connection circle exercise. Donald reflected,

...I think the drawing out the pictures like it did confused me, I was like hey what, I didn't understand at that time so I don't know if it was useful to have it that way...I didn't follow where the circles were connecting to, so I kind of just tuned it out.

Unfortunately the Sharing Circle and connection circle occurring simultaneously created frustration with the research team and participants. The connection circle exercise divided the

attention of the group, therefore distracting from participant stories. Cheryl mentioned, "... I just wasn't sure if doing the connection circles was distracting people from their story....It wasn't maybe necessary..."

Within the ceremony of the Sharing Circle, individuals are required to fully listen and pay attention to the story and storyteller. Participants mentioned that they chose to disregard the connection circle exercise and focus on listening to stories. Jannica shared,

...So it just seemed like the connection circles were half clear but I tuned them out...didn't know what to expect from that...I didn't really make the connection to what was happening and why it was...I wasn't fully understanding 100% of where it was going how it was looking...

Connection circles were a new tool participants were unfamiliar with. In our situation, the learning curve for this tool was not steady from start to finish, and participants voiced their frustrations. Donald commented,

...Okay so the frustrating part for me I think it's because it's the first time going through this process but the learning part of it...I'm not too sure it's a just a beginner or someone just being introduced to it's my first time being introduced to this type of a project so I don't know really what could be done. The chart paper [connection circle] was I think a waste of time.

Upon consideration, performing the connection circle exercise during the Sharing Circle may have interfered with honoring the reciprocal nature of the ceremony. It was difficult for the facilitator and modeller to fully listen to the stories while drawing a connection circle, as well as engaging as participants in the Sharing Circle. The two processes performed in unison may have created more confusion and discontent with the participants and MN-S Research Team. Although a connection circle exercise has the potential to help individuals new to system dynamics understand whole systems thinking, as a tool used alongside the Sharing Circle it was culturally inappropriate. The connection circle exercise was considered a hindrance by the group members.

### ***5.2.2.2 Causal Loop Diagram: An Excellent Visual Tool.***

Based on the participants' and MN-S Research Team requests, at the beginning of Day Two of the workshop we began using the Vensim PLE® computer program to draw the causal loop diagram. Although the causal loop diagram was a new visual tool for the participants, everyone became accustomed to it with ease. Donald stated, "I think what I would like to see in the future just not starting off right from the technology [Vensim]...."

Through revisiting our stories shared during Day One of the workshop we started connecting causal factors into the diagram. All individuals engaged stated that there was less confusion than with the connection circle exercise. The participants and MN-S Research Team stated that the causal loop diagram resonated with their stories and they started to see visual symbols such as the infinity symbol and flowers in the diagram. This helped them to connect with the GMB tool in a way that was unexpected, consequently validating the GMB tool. Donald expressed,

...the end result of the process was wow this is what I see. And some of the interesting things that I've seen throughout the process was that this as a story as we were working through this community story or piecing together...the common themes...The different types of images that we're seeing I thought that was really unique - to see the Métis infinity symbol. Like when we first started off I've seen an infinity symbol and then I've seen some flower patterns, like some of these images in the diagram itself I thought was pretty neat...I felt like that was kind of a really neat heart of the visual process for this group...I could see a Métis symbol and maybe every causal loop you'll see a Métis symbol....

The Métis infinity symbol represents the bond between Europeans and Indigenous peoples in the creation of the Métis. Also, the infinity sign symbolizes the faith that the Métis culture will exist forever. For many Métis people, the symbol ignites feelings of pride in one's culture (Racette, 1987). Flowers are also significant symbols to Métis peoples as they are and have been used to decorate their clothing such as jackets, baby moss bags, moccasins gloves, and vests with intricate flower beadwork patterns. This became an important part of Métis culture, as it was distinctively 'Métis' (Troupe & Barkwell, 2006). For these reasons Tara stated,

I was struck by the intuitive nature of causal loops and the connection to Métis worldview of how everything is related, circular, and constantly flowing. Because of this connection, causal looping seems likely to be an experience that Métis community members will be able to connect with and we can use this process for other health issues (T. Turner, personal communication, November, 18<sup>th</sup>, 2011).

The participants and MN-S researchers voiced their appreciation for the visual causal loop diagram provided. It was a great tool that helped participants and the MN-S Research Team focus their attention to build a picture of TB from their stories. When the diagram began to take shape with our stories, everyone began to express their enthusiasm. They shared,

...So the causal loop is a new concept for me. And I see that the elements that needed to be put up on the causal loop...and so for me like connecting some of the lines the way that they connected, it's very interesting. And the story that I shared I was always trying to connect it back to that loop...I think my story was reflected [Donald].

...my story was reflected comfortably in the causal loop... [Jannica]

... I'm very excited and very passionate about what we actually ended up with, the picture that ended up from today it's a fairly cool picture that I see up there [Donald].

...a visual of what the Métis community is experiencing, at the end result of the causal loop, do I see items that need to be addressed - to push Métis health forward - YES. I think it's a fairly good diagram that was created [Irimi].

...I really appreciate when we were piecing, so we all shared our stories and then when we piecing it together having the themes, and you know what I'd like to have a little bit more time spent on connecting the themes<sup>31</sup>... [Donald]

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<sup>31</sup> Please note that the evaluation was conducted directly after the workshop and all participants and MN-S Research Team were shown the model weeks after the workshop and asked to contribute in additional refinements.

...The process helped to visualise, not just the problems but the solutions more so I would say. You know you could sort of see different ways of looking at things and I think a relatedness in seeing how different experiences might have been linked to, it's helpful to identify those [Jannica].

At the end of the causal loop exercise the participants had a revelation: they realized that the produced model could speak not only to TB but also to many diseases and health issues within Métis communities. They said,

I think a reinforcement of the complexity of how it's not just TB but I think it's one of our conversations...you know you could replace the word TB with any disease nowadays and it's sad just like there's a reinforcement and of how Aboriginal - Métis communities are experiencing health nowadays. You know just that whole piece; the causal loop was reinforcing...of past experiences. But now looking at the diagram that was drawn I've seen like, I could make a connection to current experiences and after how many years we're still having the struggle. This you know, issues of cultural identity are recurring themes and also issues of access, issues of you know all these, so it reinforced this sort of a life long journey of stories... [Donald]

...I actually think we got more than I thought we were going to and I think it was really good and I think just the realization towards the end that you could just replace the word TB with anything else, and that is still what happens in our community, I think what was really, the lesson that I will take away from it, which is good, which means you go and replicate and do this again in another community and you get much the same result. So it's a very valid research method I think in community and it's very applicable and I think could be very useful... [Cheryl]

The MN-S Research Team remarked that the causal loop diagram depicts the interrelated social determinants of health affecting TB and Métis people and communities in Saskatchewan. Irini stated,

When I saw the model I was fascinated to see it's not just who was talking at the workshop was knowledgeable about TB but they were able to identify where exactly is the problem like by looking at the model which basically represented their stories and their perception of the TB in their families. I was able to clearly tell that participants had a good understanding of what they were talking about and a good understanding of the model itself. And a good understanding of the health system in ways that really were surprising their choice of variables their choice of influencing their lives when it came to TB was fascinating to see. So the health determinants are very well understood through this group...the causal of loop here gives a good idea actually about the health determinants, the health system, the influence of the procedures when it comes to TB patients on their families, their culture ...the causal of loop provided a very good understanding of the how TB influences the Métis Nations families and influenced by the system and how the health system in general is being perceived by the Métis nations or family.....

Throughout this research journey I have witnessed, heard, and read transcripts of our assessments of the research process and outcome. The storytelling and story listening evaluation with the MN-S Research Team and workshop participants provided the opportunity to learn, explore, and reinforce our experiences, knowledge, and insights of the research. Overall, blending a Métis and western paradigm, methods, ethics, and tools enabled us to delve deeper into our stories and histories to explore TB and create a holistic visual picture of TB in Métis communities.

### ***5.2.2.3 Knowledge Expanded: Lessons Learned.***

Lessons are knowledge that comes from experience. They can help or impact the research and can be either positive or negative, successes or failures, but they are all sources of knowledge. Our hope is that the knowledge gained through our experience can benefit others interested in engaging in Métis research within a Métis-specific GMB workshop. The knowledge expanded theme has six main take-away messages. The first is the significance of scheduling, which includes workshop location and time of year. Next, we learned the lesson that community members may fear the unfamiliar research method of GMB. Thirdly, we recognized the importance of having an experienced Circle Keeper who is acutely aware of all Talking Circle

proceedings. The next two lessons relate to the Talking Circle and these include focused, uninterrupted listening when engaged in a Talking Circle, and the value of having smaller groups when engaged in the ceremony. Finally we learned that debriefing is essential in helping all team members and participants share their thoughts, concerns, and emotions.

To begin, I will discuss the significance of scheduling; as a team we recognized that the choice of the workshop location may have impacted our participant recruitment. Given the necessary resources, we would have rented a hotel boardroom that provided all the services such as meals, drinks, and the technological services. In addition, we would have provided an honorarium, travel expenses, and accommodation for those individuals traveling outside of Saskatoon. Tara shared,

...Location, maybe having it at MNS not the greatest thing if we could get to a neutral place in the community, but is there such a place, right? If we could've rented, but we don't have the money right, if we could've rented a hall, a non-associated, political hall, and we try to do it there, it would've been different.

Having our two-day workshop at the end of January, after a busy Christmas season, in the midst of a cold, snowy winter, may have impacted our recruitment strategies. Cheryl voiced,

Little things like, trying to recruit during Christmas time, I don't know, season, trying to get in a different season, maybe could've gotten more people, it's winter, hard driving, it's cold. We did get out of touch during winter, or Christmas so may be that, you know, there's a possibility that if we were to do it in the spring may be we would get more people.

The MN-S Research Team discussed that research in the past had been defined and carried out by predominantly non-Indigenous researchers and largely did not reflect Métis world views or even benefit Métis peoples and communities. As a result, there may be apprehension or mistrust regarding research in general, and possibly uncertainty with unfamiliar methods such as GMB. Tara contributed,

...So it's the lack of familiarity, it's the unknown. Research is well, it's kind of sketchy to begin with, people are really evasive to participate in research because of past violations so, trying to introduce a new method that no one has



ever heard about then maybe that had impact on participants, maybe it was possible weather or politics or location or maybe it's the fact that it's a brand new or new to everybody that we try to share it with. Nobody has ever done this before so it's just that uncertainty, unfamiliarity and fear of the unknown....

The MN-S Research Team stated that the GMB was a new concept for Métis communities in Saskatchewan and acknowledged that we may have created some community fear based on how we advertised the workshop. We used technical terms in the recruitment material that, in hindsight, we realize was not important; we should have requested simply that participants share their stories of TB. Team members suggested more community education to allow for more awareness and understanding with GMB. Cheryl described,

....And being that group model building is new to a lot of people and nobody really knows much about it, and maybe if it was done a few times and people knew about it better, they could spread the word, and, you know....If we do that, then the next time we hold it then, at least then they could help recruit too, because they'll see how positive and useful it can be.

Team members discussed that the causal loop diagram technology (using Vensim PLE) may have intimidated potential participants. Cheryl expressed,

Of course, it's like when you introduce any new technology to a work place, it sort of disrupt that. Some people are resistant to change and, "I've been doing this a lot of years, why would I pick up that technology" you know, even though it would improve my life, right?

As a team we realized that an experienced Circle Keeper is essential when engaging in the Talking Circle method. Cheryl recommended,

...if we would have done the circle with an Elder or someone who had more experience with running Circles they would have been able to better gauge how participants were doing, we may not have closed the Circle at the end of the first day, may have done a Circle on the 2<sup>nd</sup> day etc. I think that is an important skill

that Circle Keepers learn and practice overtime...The Circle Keeper is responsible for the safety and security of the Circle, including making sure the participants are emotionally, physically, mentally and spiritually taken care of during the Circle. Because it was the first time conducting a circle, I think there was probably a learning curve for you there as well – which indicates to me that this whole process for you may be part of learning to walk in both worlds in a more meaningful way...

The power of the Sharing Circle arises primarily from listening, not from speaking. Therefore, conducting the connection circle exercise on a flip chart during the Sharing Circle undermined the ceremony's energy and original intention of safety, transparency, and honesty, which created confusion. The MN-S Research Team suggested,

...I think it really is about for the first day about just the talking circle... [Tara]

...the process of the circle is so powerful in that it's so intense when listening. The connection circle [exercise] was kind of extraneous to all that so it wasn't necessary to even have it because we were all intent in listening...[Cheryl]

Upon reflection the MN-S Research Team recognized that we would not combine a Sharing Circle with a connection circle or causal loop exercise. It was through this ceremony that we learn the lesson of listening without doing. Cheryl emphasized,

...we should have trusted the circle and just listened to the stories. I think it's the ceremony's way of teaching a lesson to slow down and just listen first. Taking part in the ceremony of the circle, and experience that, then discuss and analyze and apply the stories and teachings to the GMB method. I think we tried too hard to apply the GMB and the causal loop to our Métis way of sharing, when we should have focused on the circle first.

The participants and MN-S Research Team expressed gratitude for the small number of people at the workshop. Given the nature of a Sharing Circle and the unlimited time allotted for sharing, if more individuals were present our Circle would have continued for a longer period of time. Donald specified,

...I'm very appreciative of the small group because I'm thinking hey one or two more participants, and then we would have been here for 3 days easily with another 2 participants. I just wanted to throw that in there so I thank you very much for a smaller group...

As a research team we recognized that group dynamics may have changed if the group had been too big, thus impacting how soon or how long it took for participants to share their stories and experiences. Tara expressed,

...I think the cohesiveness of group and where the stories were coming from. Just by nature of like everyone coming here really as a group, I don't think that was planned but I think it was out of a pure luck...

The MN-S Research Team identified that debriefing throughout the workshop would have helped us gain insight and reflection sooner than we did. Tara stated,

... So maybe if we should have regrouped after the Sharing Circle, the four of us could have said "it's hot, we are tired,"

Debriefing would have been valuable in assessing the process to confirm and/or adjust the following day's activities. Although we had unofficial times of talking, relating, and sharing during breakfast, coffee breaks, and lunch, a more formal process of debriefing collectively would have been beneficial. Cheryl commented,

...it would have been very good to do a check in and figure out where people are at and just talk some of that stuff through. Because when you do a Circle, it's really emotional for people, and if you don't close it off properly or in a good way, then you still are open....

### **5.2.3 Not Discussed During Evaluations.**

MN-S Research Team evaluations revealed many insights into our research process and GMB workshop. These insights helped to uncover the successes, assets, questions, concerns, and challenges that we encountered, which can be applied to future Métis and GMB projects. Even the topics that were not discussed during evaluations provided much needed awareness. Below I provide a short summary on the following topics that were not deliberated during our team

evaluations. These include GMB scripts, roles, and workbook. These topics will also be discussed in more detail in Chapter Seven.

Based on the GMB literature, scripts and roles are determined to be a normative and important part of a GMB process. However, in our Métis-specific GMB workshop they were not. On many occasions, prior to our workshop and evaluations, MN-S Research Team members discussed their apprehension and lack of enthusiasm for the use of scripts and roles. They stated that they were contrived, one dimensional, rigid, and silly. They suggested that working within our Research Team and with Métis GMB participants required more fluidity and flexibility. Although the scripts and roles were collaboratively determined and individuals chose the scripts and roles that most suited them, their implementation was not necessarily strictly adhered to and monitored. Through conversations with the MN-S Research Team, I learned that they were not overly concerned with specific scripts and roles. Members stated that because we had almost a year to prepare for the workshop, they understood and knew what was expected of them, and therefore they were naturally able to embrace what was required of them.

A GMB workbook was developed as a resource guide for the MN-S Research Team, to accompany our two-day GMB workshop. The content was structured on the logical steps of implementing our workshop, and the material included relevant and practical information but was not comprehensive. The workbook included our workshop agenda, GMB scripts, and roles. Based on an experience of engaging in GMB with the Social Systems Design Lab in St. Louis Missouri, I believed that a workbook was a useful tool for team members to utilize. Based on my past experience I assumed that the MN-S Research Team would also appreciate the use of a workbook. However, it was overlooked and not used. The MN-S Research Team simply stated that given our extensive time, collaboration, and communication, they understood and knew what was expected of them. They stated that they did not need the reminder, but I could develop the workbook if I felt that I needed it for the research.

Chapter Six introduces the co-created causal loop diagram along with the corresponding stories of TB shared during the Talking Circle. The participant and MN-S Research Team stories of TB highlight two main focal areas within the causal loop and are themed, *Intergenerational Stories of Trauma* and *Intergenerational Stories of Culture and Tradition*. Chapter Six ends with a composite narrative that connects the causal factors identified within the causal loop diagram to a story of a woman named Ida.

## Chapter Six: Métis TB Experience - Results

Our findings about Métis perspectives on TB in our communities is presented in Chapter Six in three ways. In the first part of the chapter I present the causal loop diagram that was developed during our two-day GMB workshop and enhanced by participants and the MN-S Research Team weeks after. The second part is the themed TB stories that workshop participants and the MN-S Research Team shared during the Talking Circle that correspond to the main focal areas in the causal loop diagram. These are themed *Intergenerational Stories of Trauma* and *Intergenerational Stories of Culture and Tradition*. Chapter Six ends with a composite narrative that tells a story of TB as depicted in the causal loop diagram. This narrative rendering of the casual loop diagram grounds the themes and connections in the emotional human experience of TB. The main character in the story is Ida. She is a fictional character, but the experiences that were combined to form the composite story are true.

### 6.1 Causal Loop Diagram

The primary activities of our two-day GMB workshop focused on the conceptualization stage<sup>32</sup> of system dynamics in which the participants' personal and family stories of TB identified factors driving TB and the linkages between them within their community, producing a diagram of their stories. Conceptualization often starts with the development of a causal loop diagram and this qualitative tool can assist in thinking about how parts of a system, or components of a problem, fit together. Every picture tells a story and drawing a system diagram is a good way to show a story. Creating a causal loop diagram allows individuals or groups an opportunity to see feedback processes within a system that they may not have known existed. More specifically, they help to recognize the ways in which the factors within a system interact and react upon themselves (Sterman, 2000). For our project the emphasis was on learning, exploring and experimenting with the GMB method and causal loop diagrams. Therefore, creating a causal loop diagram was a means to share stories, observations, points of view and mental models on TB in Métis communities. This is where a Métis research paradigm diverges

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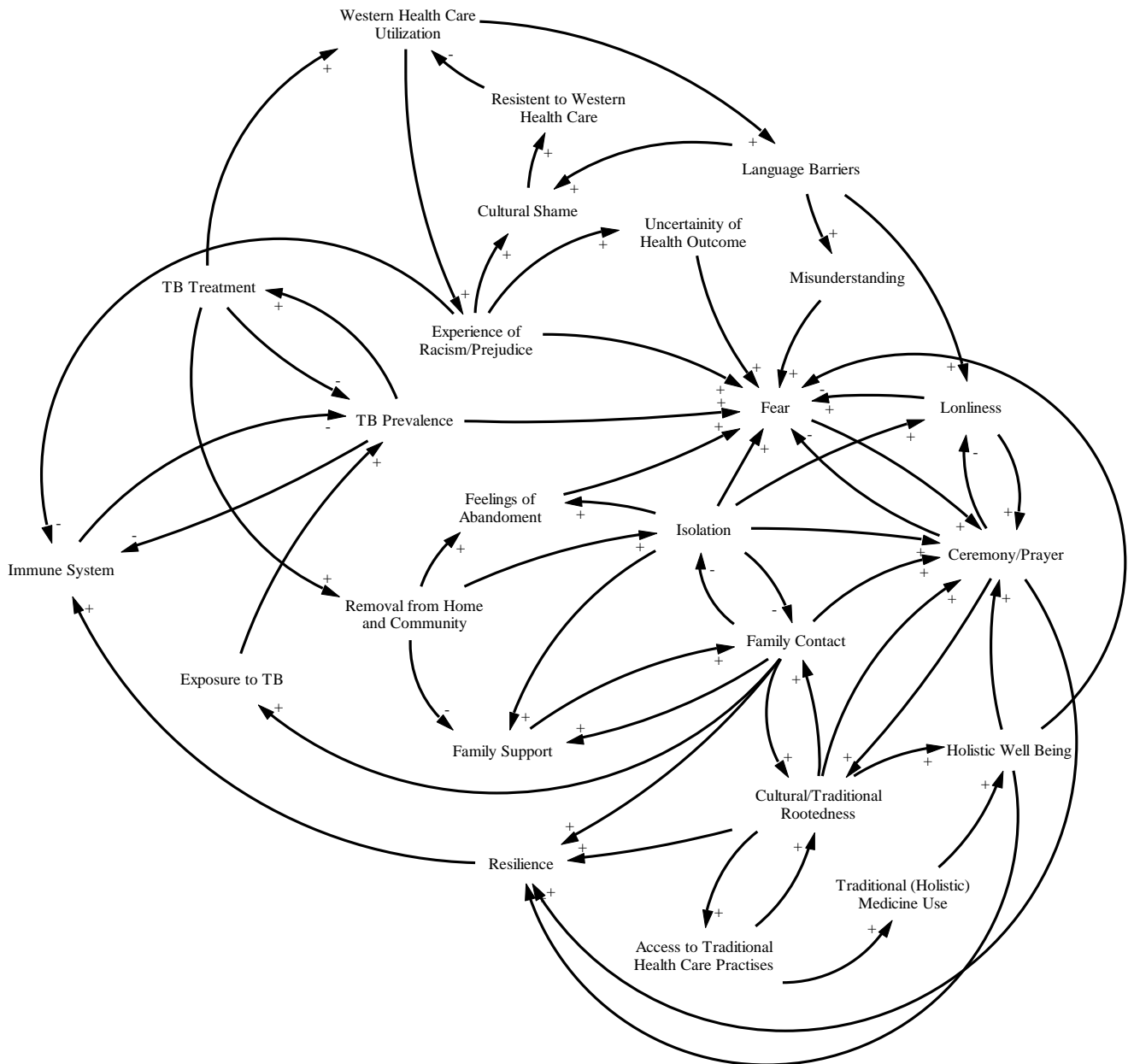
<sup>32</sup> While beyond the scope of this study, the next steps after the conceptualization stage in system dynamics would include formulation, testing, and implementation. Formulation involves converting causal loops to level and rate equations and estimating and selecting parameter values. Testing comprises simulating the model; and testing the hypothesis, the model's assumptions, and behavior. The last stage is implementation, which includes testing different policies on the model and explaining the study insights (Albin, 1997).

from a system dynamics paradigm, as the MN-S Research Team decided to not explore loop dominance and label the feedback loops as reinforcing or balancing, as would typically occur within a systems dynamics approach. We chose this because we believed that singling out specific loops may distract from the holistic nature of the interrelatedness and interconnection of all of the loops together.

During our two-day GMB workshop, we collaborated as a group in retelling, restating, and identifying factors, elements, and words that represented our stories, thereby iteratively refining the model and rendering a more accurate representation of our stories. All participants and MN-S Research Team members were also shown the model weeks after the workshop and asked to contribute in additional refinements. Ultimately, 15 versions of our causal loop diagram were produced during the course of the workshop and afterwards. Figure 24 is the final version, visually representing our collective experiences of TB in the form of a causal loop diagram<sup>33</sup>.

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<sup>33</sup> System archetypes have been developed to provide generic templates to understand systems and dynamic problems. They are also known as ‘generic examples’, ‘classic system stories’, ‘basic stories’, and ‘templates’ - describe common patterns of a systems behavior. They consist of reinforcing and balancing feedback loops that describe basic structures underlying situations that occur most frequently. These system stories are often transferable to more than one particular situation because they are heard and seen over and over again. They are helpful to facilitate system awareness quickly because they offer an easy and engaging way to discuss, learn, and share about systems with individuals who may have no background in the field. Each system archetype has a theme, story, and corresponding behavior over time graph, structure, mental models, and useful interventions (Sterman, 2000; Vennix, 1996). Within our study, we did not explore or discuss system archetypes because at this point in time it would be inappropriate to impose a Western archetype on a Metis health issue.



**Figure 24. Final causal loop diagram.**

*(Figure created by MN-S Research Team and Workshop Participants using Vensim® PLE)*

## 6.2 Themed Stories of TB

As seen in Figure 24, many arrows go into specific casual factors on the right hand side of the diagram because there was a concentration of stories around those causal factors. One central area within the causal loop diagram includes the causal factors of culture shame, experiences of racism/prejudice, uncertainty of health outcome, language barriers, misunderstanding, isolation, feelings of abandonment, removal from home and community, loneliness, and fear. I have combined these causal factors and related participant stories under the theme of *Intergenerational Stories of Trauma*. The next main area within the causal loop diagram includes the causal factors of family contact, ceremony/prayer, holistic well-being, traditional (holistic) medicine use, cultural/traditional rootedness, access to traditional health care practices, resilience, and family support. For these factors and participant stories I have themed them under the title of *Intergenerational Stories of Culture and Tradition*.

For these themed sections I wove quotes from the participants as well as summarized participants' stories that help tell a group story of TB in Métis communities. All workshop participants gave permission to the research to edit their quotes for spelling and grammar to allow for easier reading. Some quotes I modified minimally, while others I used verbatim. However, I have not altered the original meaning or intention of the quotes.

### 6.2.1 Intergenerational Stories of Trauma.

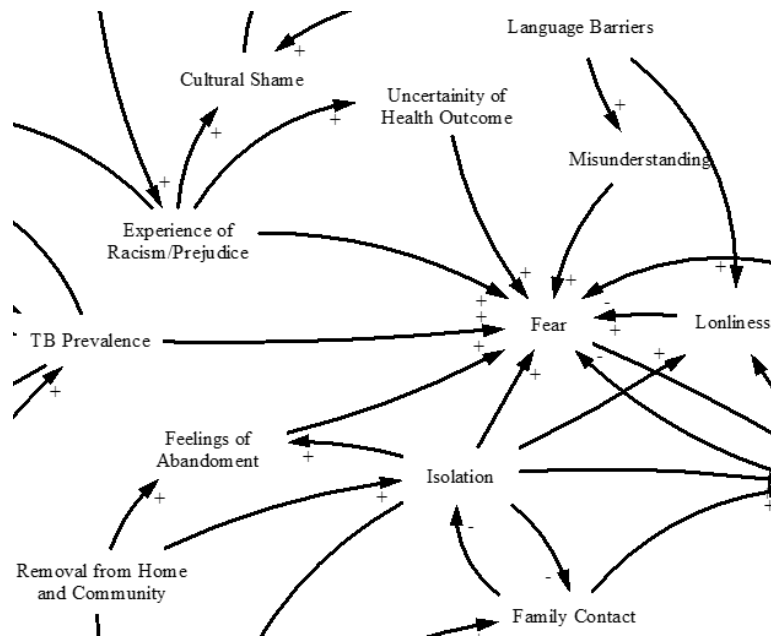
I chose to theme some of the stories relating to the causal loop diagram as *Intergenerational Stories of Trauma* because all participants in the GMB workshop did not directly experience TB disease and treatment, although many of their family members did. Additionally, participants expressed that their stories of TB are embedded in historic trauma. They clearly articulated that when Métis children, families, and communities experienced trauma and loss relating to TB and sanatoriums, the result is stories of trauma being passed down intergenerationally. The Aboriginal Healing Foundation (2004) defines intergenerational trauma as follows:

Intergenerational or multi-generational trauma happens when the effects of trauma are not resolved in one generation. When trauma is ignored and there is no support for dealing with it, the trauma will be passed from one generation to



the next. What we learn to see as "normal" when we are children, we pass on to our own children. (p. 2)

The stories shared throughout the workshop stressed that the trauma and fear of TB disease and treatment still linger for many former sanatorium patients, their families, and communities. Participants' grandparents, fathers, mothers, uncles, and aunts that experienced TB disease and treatment unintentionally created intergenerational trauma. As seen in Figure 25, their intergenerational stories of trauma include the causal factors of culture shame, experiences of racism/prejudice, uncertainty of health outcome, language barriers, misunderstanding, isolation, feelings of abandonment, removal from home and community, loneliness, and fear.



**Figure 25. Intergenerational stories of trauma theme.**

*(Figure created by MN-S Research Team and Workshop Participants using Vensim® PLE)*

The personal experiences of TB sanatoriums were very much alive for the workshop participants. The act of an individual being removed from the community and sent to a sanatorium once diagnosed with TB was described as a traumatic event surrounded by confusion and fear, which had lasting effects on the individual and family. Tara revealed,

...in my family, it was my grandfather who had TB and by that time the family had moved to Fort Saskatchewan and my father's father and mother were living

in the outskirts, so he went to the sanatorium in Edmonton. . . . My dad remembers him being there for many months. . . . The most significant memory for him at that time was going to visit them at the sanatorium and he couldn't go into the room. He had to stay at the door and his dad was in the bed and they weren't allowed to go up to him. . . .

Participants described the disruption that occurred from the removal of a family member into the sanatorium. Having a loved one absent for long periods of time often meant extended family and relatives having to care for children. However, children often felt a sense of abandonment and loss. Donald reflected,

Some of the pieces of information that my aunt Maggie shared with me was, she was just a little girl, at that time about three or four years old when my grandmother went to the sanatorium. Relatives and other family member took over the parental role while my grandmother was in the sanatorium. And my aunt said she was gone for about a year, and she said she didn't know if her mom was coming back. . . . I know that there's some very dark things that happened as a result of my grandmother having TB and having been in a sanatorium for a lengthy period of time. . . .

Feelings of isolation were common in sanatoriums. Patients were often sent to sanatoriums that were far from their home communities, leading to isolation from families. Moreover, sanatoriums had patients from all cultural and linguistic backgrounds, so it was not guaranteed that an individual would be sharing a room with someone that came from the same community or culture, or even spoke the same language. English was the dominant language spoken within sanatoriums, as most of the healthcare staff were non-Indigenous. Many Indigenous peoples learned English and/or another Indigenous language in sanatoriums in order to communicate with healthcare professions and their roommates (Staples, McConnell, & Oakes, 1964). Donald shared his grandmother's experiences of isolation due to language barriers:

...she [my grandmother] spent time in a sanatorium in Fort Qu'Appelle in the early '40s.... So she's from Sandy Bay Saskatchewan<sup>34</sup> and she ended up all the way down in Fort Qu'Appelle...from my grandmother's perspective, she was isolated from her family in Fort Qu'Appelle, she wasn't in a facility where she was in a bed beside other Cree. My grandmother speaks Cree, so she was not with other Cree-speaking people. The people in the bed beside her were Dene. So, she was very isolated, even language-wise. It was a very lonely time for my grandmother.... [Donald]

All participants agreed that traumatic events such as sanatoriums left a lingering fear in their families. Fear of death, isolation, loss of family connection, and fear of treatment. The participants recognized that these feelings of fear were continuous. Participant's stories revealed,

...There was this fear associated with sanatoriums and TB. Sanatoriums meant you would be separated and probably die there... [Jannica]

....not knowing whether you're going to go back home, I think must have been really significant, the fear that people would have felt about leaving their family [to a sanatorium] and not being able to see them so easily... [Tara]

...I remember my mom saying that she had to go and get TB shots, to get tested. I remember the fear that created in our entire family. She also talked about people that we knew that had TB. It created this whole sense of what's going to happen, and that fuelled everybody else in the family, not knowing and not having a good understanding of what it is or how it can be treated and what it's going to do. I just remember as a little kid how scary that was, that was late '70s, early '80s....That is not that long ago and there's still that fear.... [Cheryl]

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<sup>34</sup> Sandy Bay is a village in northern Saskatchewan, located 188 km north west of Creighton. The community is on the banks of the Churchill River. Fort Qu'Appelle is a town in southern Saskatchewan, located in the Qu'Appelle Valley, 70 km north east of Regina. These two locations are approximately 750 km apart. Nowadays this would be an approximately 10 hour drive (Google Maps, 2013). In earlier times, depending on the mode of transportation or if an individual had transportation, to travel this distance may have taken days or may have been inaccessible.

...my grandma had two siblings that died of consumption<sup>35</sup>... one was older and one was younger than her. It was that thing that was so scary. She always had that sense of loss about her and then she had a child that died...And so I think for her that was a lot. She always had that sense of loss throughout her whole life.... and I think a lot of that was because of that fear she had about getting sick - that loss.... [Cheryl]

The workshop participants had a collective story of past and present experiences of prejudice, racism, and stigma surrounding their Métis heritage, as well as having a TB diagnosis. In the past Métis people were identified as being undesirable and disvalued. Therefore, many Métis people grew up internalizing a sense of shame, disgust, and guilt. This created much pain and fear because it emphasized that being Métis was and is wrong (Barron, 1997). As such, participants discussed much fear around identifying as Métis because of the possibility of being discriminated against based on their cultural background. One strategy the participants and their families were taught was to hide their identity, language, beliefs, and practices to save them from possible discrimination. Jannica asserted,

...there was a lot of prejudice and racism against being Métis. There was not a lot of support for our family. Within our family there was a bit of a breakdown and there are some things that we don't talk about...But my dad's grandma, Rose, moved everybody out to BC and ended up getting TB, so she and her brothers and sisters were all subject to TB....and once they moved to BC, my dad grew up without his culture because they were told to hide their Métis ancestry....So, it became a coping strategy to hide your ancestry...

Participants identified that family shame of being Métis was problematic because it was associated with the desire to hide and deny their culture, language and tradition. The feelings of shame and strategies to hide oneself within the Euro-Canadian culture were often passed down generationally. Amanda affirmed,

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<sup>35</sup> Tuberculosis was popularly known as “consumption” because of the severe weight loss caused by the infection, appearing to “consume” the patient. It was also called the “white plague” because of the extreme paleness seen among infected individuals (MacKenzie, 2002).

...there's a huge identity piece that plays a part in the family and there was huge disparity, huge sickness and poverty, but it's hidden....even to this day, my dad will deny he's Métis. He says he speaks French....he grew up traditionally, we grew up traditionally...so, a lot of the stories that I have, is very hush, hush, it's very secretive because there's so much shame behind the stories.

Participants spoke about how culture shame was taught to them. Although each participant recognized that being Métis is not shameful and felt encouraged to celebrate their culture, old feelings of internally and externally imposed shame still crept up in times of vulnerability. Tara stated,

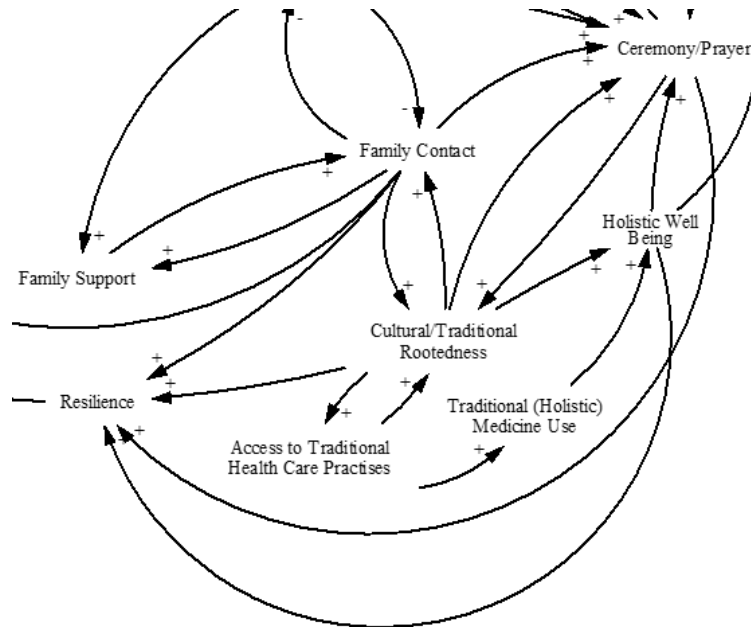
...there's shame that is still resonating with identity....I think it's easy to say or to think that as modern people that there's no serious residue of that left but I know for myself at various times where I've felt that shame and knowing that it was not based in any kind of reasonable rational place, but it still exists. It's like this kind of thing that you can't quite lift off, you know, and it's not necessarily always coming from the outside, I think it sort of gets so ingrained in your system.....And then I'm just saddened...

Participants discussed much fear around identifying as Métis as well as having TB because of the possibility of being discriminated against based on their cultural background and disease diagnosis. Being Métis and having an infectious disease was highly stigmatized because Métis people were often labelled by the general public as vagrants, poor, and disease ridden (Barron, 1997).

### **6.2.2 Intergenerational Stories of Culture and Tradition.**

Workshop participants expressed that stories of cultural and traditional knowledge are intentionally and instinctively passed down from one generation to the next through oral history, narratives, and customs. They stated that their Métis culture was learned from their family and community, encompasses how they talk and behave, and influences how they celebrate, grieve, honour, and support one another. As well, culture is embedded in their ceremonies and traditions involving births, deaths, and illness. Appropriately, I themed these stories under the title of *Intergenerational Stories of Culture and Tradition*. The following theme as seen in Figure 26

speaks to the factors in the causal loop diagram of cultural/traditional rootedness, family contact and support, ceremony/prayer, resilience, access to traditional health care practices, and traditional (holistic) medicine use.



**Figure 26. Intergenerational stories of culture and tradition.**

*(Figure created by MN-S Research Team and Workshop Participants using Vensim® PLE)*

While culture means many things to many people, the participants in the GMB workshop explored elements related to their cultural ways of being, doing, and knowing within their families and communities. Much dialog was focused on cultural values, practices, rituals, beliefs, and ways of living. Participants stated that their cultural values within their respective communities gave them and their families a sense of identity; it was this bond that helped tie them together. Culture was learned and passed down from their grandparents to the younger generations and each participant was aware that their ethics, customs, and histories characteristic of their culture shaped their thoughts, behaviour, and views of the world. Participants’ stories share this fundamental knowledge.

In Métis culture, a kiss, hug, handshake, or combinations of them are culturally appropriate forms of greeting when meeting close friends or relatives. These acts demonstrate appreciation, respect, love, affection, and friendship (Barkwell, 2006). Cheryl shared,

...handshakes and kissing in my extended family is/was something that's really important. To show respect to your Elders and even with the kids we were always shaking hands. Especially on New Year's it was for good luck, it was for well wishes, it was really important, that and especially kissing. Sometimes on both cheeks and sometimes on just one cheek. So it's a very traditional Métis thing to do. But that being said our families are big, they're close, they're huggy, they're kissy...so when you think about TB and how infectious it is...and we try to do all these things to protect our families and to be together, but TB must have been so devastating to families because close proximity is what spreads TB. And when you think about you know 9, 10, 11, 12, 15 people living in one house and the conditions in which people were living in, it must have been just traumatic....

All greetings are a cultural expression of community bonding, an acknowledgement of the connectedness and relationships family and community members have with one another. All participants were in agreement and expressed,

...when you greet your relatives everyone kisses on the lips and it's very warm and loving...it's rude if I don't kiss them on the lips. And men will kiss men on the lips or close on the cheek, or close to the lips... it's part of that community connection and community wellbeing and forgiveness and the whole relationship that it is built upon. It's about resilience through culture and finding ways to be resilient. I think for my grandmother that importance of when she leaves, we always kiss her goodbye because we don't know when we're going to see her again...that kiss is such a resilient area of pride in our family, it's something special, to kiss your grandmother goodbye.... And it's like a deep bonding of love and appreciation for life because you don't know the next time you'll see each other again. I think that's something that is a reality for Métis people... And it's that resilience - and then we have something like TB, it must have been a very traumatic experience for the community... [Donald]

Another cultural teaching that participants discussed was responsibilities of being present when family or community members get sick: sitting vigil, gathering around an ill person, and praying to create a calming, peaceful environment for healing. Participant stories revealed,

...One of the things that's really big in our family is that when someone gets sick there's a huge focus on don't leave that person and try and stay with that person. Recently my father had a heart attack and three of four siblings came to be there and my grandmother came as well and she is medically not in the best health, she's in her 90's and it's getting harder for her to travel...my grandmother would stay there from when visiting hours start and until visiting hours are over. I don't know if it's her experience in the sanatorium, but we stay with that person as long as possible while they're ill to provide that comfort and to pray – it's the first thing my grandmother would do when she sees a family member sick. She carries around her little bundle, she has holy oil in it, and the first thing she did for my father was she blessed his heart with holy oil and then she prayed in Cree...so when one's sick, it's a big comfort for them to have prayer... [Donald].

The strength of families and communities bound by kinship ties is embedded in all the stories shared by the participants. Kinship denotes more than genetic relatedness. Participants referred to it as the web of social relationships that play important roles of the lives of Métis peoples. They offer a sense of togetherness, cooperation, unity, identity, and a support system, creating community. Communities allow for a place to share feelings and stories of happiness and sorrows with our friends, relatives, and others, and it is through these kinship ties that people take care of each other. A lesson within participants' stories was brought to light this way:

...There are some really strong lessons there when you think about who we are as Métis people. The crux of who we are is our family and how important those kinship relationships are to us and our families...families coming together just to sit vigil...that is/was a huge part of who we were and that we would do that for each other to make sure that we were cared for... and even taking other kids in when people were sick... [Cheryl]

Métis traditional health care practices such as the use of traditional medicines were also discussed. Participants indicated that traditional medicines are grounded in community practices and used in the maintenance of health and well-being. All workshop individuals inherently knew that their traditional health care practices were deeply embedded in relationships with all of



creation and preserved for generations through narratives, oral history, cultural teachings, ceremonies, and written documents. Donald recalled,

...A big part of my grandmother was making sure that we were all looked after as kids. It was actually a preventive side, to keep us all healthy. She always would, wherever she goes, takes these little bundles...in one of her bundles she has her beadwork, in another bundle she has prescription medicines that the doctors give her. In another bundle she has plant roots and different herbs that she picked. She is a pretty neat woman and she tries to integrate different aspects of culture from Métis and First Nations in her approach to wellness.... so engrained in me is to do the best that I can with the tools that I have. So if I have Rat Root then Rat Root can help me until something comes along. So there's an openness engrained in me, that even though my grandmother's experience of TB and her having to leave her community to get that outside community help. So my perception of wellness has been shaped by my grandmother's perception of wellness. And even my most recent visits to the North where I had a toothache, right away my grandmother brings me radishes, 'put this on your tooth and until you get back to the city it will help your tooth until you can see a dentist'.

For one participant, the health and healing practices her grandmother instilled in her were based on old beliefs on how to not get TB. In sanatoriums TB was treated by rest, fresh air, and plenty of sunshine. Cheryl's grandmother desired the best for her grandchildren, so she prescribed playing outside, sunlight, and cod liver oil, which is a source of vitamin D and A. Cheryl remembered,

...my grandmother would always make us go outside and play because she thought that sunlight was good for us and it could help with TB. She'd give us cod liver oil, which is the most disgusting thing ever. I remember the fear of going there because she would make us drink from this big brown bottle – I just cringe at the thought of having to take this horrible stuff. It was so that we'd get our Vitamin D and we'd be healthy...

The Métis TB stories that are highlighted and themed within this research are important because Métis people have different experiences with health, wellness, illness, and disease than First Nations or Inuit peoples. Thus, the MN-S Research Team sought to focus only on the causal factors specific to Métis people's experiences of TB. In this way they also demonstrated the importance of working closely with Métis community members to uncover and address the social determinants of health surrounding this complex and preventable disease. The fundamental findings of intergenerational stories of trauma, culture, and tradition are important because they provide a Métis historical and colonization context in which the Métis TB experience unfolds. These stories are significant contributions to the causal loop diagram because they would not perhaps be so prominent in a causal loop diagram of a different population.

### **6.3 Ida's Story of Tuberculosis**

This composite story was written by Donald (a workshop participant) in collaboration with the student researcher. We have created a story of TB in Métis communities from our knowledge of TB literature, as well as by listening and hearing the TB stories told during the Talking Circle, and through the student researcher's own reflections during the research process and workshop. Therefore, the composite story blends the voices, stories, and experiences of the participants and the MN-S Research Team with the student researcher.

Peyak-waw Kiyas (Once a long time ago) when a lot of people had to leave the community for TB treatment... Ida's father was Alec Parunteau, a Métis trapper whose family settled in the North east part of Saskatchewan. Her mother was Nancy Parunteau (née Custer) who was of mixed Cree and Métis ancestry. Ida's mother Nancy had treaty status and was a member of a Treaty 6 band<sup>36</sup> – she lost her status when she married her [Métis] husband Alec. Because her mother was of Cree background, Ida grew up fluent in Cree, however, she was also able to

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<sup>36</sup> Treaties are constitutionally recognized agreements between the Crown and Indigenous peoples that set out promises, obligations and benefits for the respective rights for the government to use the land and other resources traditionally occupied by Indigenous people (Brizinski, 1993). Treaty 6 is an agreement between the Crown and the Plains and Wood Cree, Assiniboine, and Dene in Saskatchewan (Duhamel, 1964).

understand Michif<sup>37</sup> and a few French words. Ida grew up learning about Cree culture, medicines, and customs from her mother as well Métis traditions from her father. Because she spent a lot of time with her father, and because she was not granted treaty status, Ida considered herself to be of Métis identity. Ida's family was one of a few trapping families that built log cabin homes on the outskirts of a northern Cree community.

Ida was the second eldest daughter in a family of eight siblings. Because the family's boys were born later, Ida and her sisters grew up having to help their father with trapping, fishing, and trap-line chores. However, it was mostly Ida who accompanied her father on trapping and trading trips because she was a good worker. There was little downtime for Ida, and if she was not helping her father she was providing assistance to her mother with preparing hides, and with the various household and child rearing chores. One of Ida's favourite activities was dancing. Ida's father, Alec, was a great jigger and he taught Ida his favourite steps. When they would travel to neighboring communities, Ida became well known for her fancy jigging steps.

As was the custom at the time, Ida was married at a young age of 16, to William Gardiner, a man from a Cree community to the south. William was of Cree ancestry, however, he did not grow up speaking Cree or learning the customs as he attended a residential school<sup>38</sup>. At the time of her marriage, Ida relocated to her husband's community. Through Ida's marriage to William she re-gained her treaty status. Because she often traveled with her father, she had met friends in her husband's community and as a result she integrated well into the community.

After a few years of marriage, Ida's husband enfranchised<sup>39</sup> in order to work at a real job in town for a local store. As a result Ida lost her status as a Cree person.

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<sup>37</sup> Michif is the language of Metis peoples and is rooted in a mixture of French nouns and Cree or Saulteaux verbs (Bakker & Barkwell, 2006).

<sup>38</sup> Explanation of enfranchisement is on page 39-40 in footnote 11.

<sup>39</sup> Explanation of Bill C-31 is on page 142 in footnote 25.

Ida had a funny sense of humour and often joked with her relatives, about how many times her identity was switched around. Over her lifetime she was Métis, then married into treaty status and became Cree, lost her status as a Cree person when her husband lost his, and then years later regained status as a Cree with Bill C-31. Ida often found the White Man's culture confusing and mixed up. Throughout, Ida identified as Métis and appreciated learning the customs of her extended Treaty (Cree) family.

Description During her married years Ida primarily worked in the home and looked after her family. Her husband worked hauling freight for a local store and trapped. By the age of 26 Ida had six children. It was shortly after her sixth child was born that she became sick. When her mother learned of her illness, she came to visit her. Ida and her mother used their knowledge of traditional medicines to try and heal the illness. Ida was comforted by this support and was hopeful that with the help of her mother she would soon heal. They knew that their traditional medicines and health care practices would address Ida's illness holistically, treating her emotional, mental, physical, and spiritual health.

Many people in the community had already been sent to sanatoriums in the south for what was being called lung disease. At the time, more and more people were getting this horrible disease. It seemed as though the intimacy of the community had resulted in close contact with the infected, resulting in more people being sent away for treatment. This was a difficult concept to understand because Ida was taught that when close family and community members got together to celebrate, everyone would greet each other with a big hug and a kiss. But could this be the very reason everyone was getting sick? It seemed as though the close contact was spreading the disease. But how could she not be in close contact with her family? How would she show love and affection to them if she was sick? Ida knew she may need outside help to treat her illness.

It was a stressful time because Ida did not want to leave her family and community for treatment. Her constant worry did not help her health and she deteriorated quickly. Ida and her mother did everything possible to avoid having

to resort to the “Whiteman’s” medicine. It was when Ida could no longer walk and at the request of her family that she agreed to fly out of the community to see a doctor. It was extremely hard for her to leave her children with her mother and her mother in law. Three of her youngest children went to live with her mother and the remaining children stayed with her mother in law. At Ida’s departure there was a lot of weeping. She did not want to leave her children and her husband. Ida was aware that when other community members were flown out with “lung disease” that they did not come back for a long time and some did not return. She was devastated, and heartbroken to leave her family because she was uncertain if she was going to survive and return home. She did not want her children to feel forgotten and abandoned. Ida was also very fearful that if she passed away her family would not be provided with the opportunity to properly grieve for her. Some families never found out what happened to their loved ones once they had left the community for treatment if they didn’t come home. Some community members who were flown out and died in the sanatoriums were buried there and their bodies were never returned to the community. Nobody knew what happened to them. Ida was scared of this, being uprooted and not having anyone know what happened to her.

Ida was sent to the sanatorium in Fort Qu’Appelle in south-eastern Saskatchewan. A few months after Ida arrived at the sanatorium, she found out (through a letter sent and the help of fellow Cree speakers, fluent in English) that her oldest daughter had been sent to a TB sanatorium in another province – to Clearwater Lake in neighbouring Manitoba. She became worried and anxious about her family situation and shed many more heartbreaking tears. The news of her daughter’s illness made her miss her children even more. She was worried about her daughters’ health and if she would see her daughter again. She wished that her family could visit her so she could hear and see for herself if they were okay. But, the sanatorium was far from her home community and having any family members visit would cost a lot of money, plus visiting was often deterred because the nurses and doctors did not want the others to be infected by the disease.

While at the sanatorium Ida had a very hard time understanding the doctors and nurses and found the medical treatment very strange. Ida did not attend school when she was younger, so did not learn English, and did not understand when the nurses and doctors were talking with her. Being in the sanatorium was a completely different world to living in her community. It took a long time for Ida to learn to speak some English, and partially understand other English speaking patients and workers. Ida also found the treatment and behaviour of the nurses and doctors was very strict. At times, Ida felt resentful of the nurses as they were forever scolding her, and she often felt like she was treated as a child. Even during the winter time the nurses wheeled out all the beds to the veranda. Some of the other Cree speaking women explained to Ida that the doctors and nurses wanted the fresh air and sunlight to help with the healing. Although the TB ward had rows and rows of beds of women with TB from all over the province, many spoke different languages and unfortunately Ida was placed beside a Dene woman and Ida could not understand her. Ida felt alone, isolated, and abandoned.

After a year of being at the Sanatorium Ida learned that another daughter had been sent to her TB sanatorium, however, Ida was not allowed to be in contact with her as the adult ward was not allowed contact with the children's ward. Not being able to see her daughter knowing that she was so close to her made Ida angry and like she was imprisoned – locked up in a world where her voice and concerns as a person did not matter. Ida grew very resentful of the treatment and of the TB sanatorium. The nurses would often talk in front of her and laugh, and Ida did not understand why the nurses behaved this way. She felt that the nurses were being disrespectful and uncaring to her as a person. These moments made Ida feel ashamed of her culture. To cope she would daydream about the fun times, traveling with her father and visiting other Métis and trapping communities. She would remind herself to be strong and to be “tough”. She was a tough person and strong worker. She would remind herself of the strength she had, and her goal to regain her strength so that she may return home to help her family.

While at the sanatorium, and because Ida was so isolated, she turned to prayer. Her father was Roman Catholic and Ida was taught many of the prayers in Cree. Ida turned to prayer and faith to help her through the hard times. Through prayer Ida felt comforted – she prayed to be strong to fight loneliness and fear. She prayed as often as she could and avoided being in too much company as she did not want to become a subject of gossip and hateful comments from the nurses at the sanatorium. Most of her time spent at the sanatorium, Ida spent bed ridden, in a body cast<sup>40</sup> and alone. There were a few other fellow community members in the Sanatorium with her and Ida really appreciated the moments when they would get to visit together. At times, fellow community members in the sanatorium would receive letters from loved ones back home and they would come visit and share some community updates with Ida. It was these moments that brought Ida hope and happiness.

Ida's body cast was removed about one year and a few months after being in the sanatorium. At this time the doctors with the help of a translator explained to Ida that her health had improved greatly and she may be able to return home shortly. However, Ida would have to work at being able to walk again. The doctors continued to perform many tests on her. After two years of being in the sanatorium Ida was told she could return home. When the day arrived for her to return home, she went to the airport and boarded a bush plane headed for home. However, Ida returned home to learn that her family had a lot of emotional turmoil. Two daughters were still away at the sanatorium, her two youngest children were afraid of her, and two of her oldest daughters had been physical and sexually abused while she was away. Ida was in turmoil knowing that while she was away at the sanatorium she could not protect her daughters from the abuse. Her second eldest daughter cried a lot and would wake up in the middle of the nights screaming. On top of this, Ida heard from other community members that her husband had 'shacked up' with another woman while she was

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<sup>40</sup> TB can affect almost any part of the body. Spinal TB was formerly treated with a full-body cast and complete immobilization for an undetermined amount of time (anywhere from 3 months – 1 year). This was the usual treatment before medical advancements were made in the field of TB research and medicine (MacKenzie, 2002).

in the sanatorium. Ida felt horrible. She had to rebuild her relationship with her husband, children and community. She knew that being away had changed her and her family. The experience of TB, the strange treatment while at the sanatorium, being away from her family, and the abuses her children suffered while she was away greatly affected Ida. She felt very betrayed and hurt because of what her children went through while she was away.

Over the years Ida remained strong and rooted in her faith, and both her upbringing with Cree values and Roman Catholic religious beliefs helped her remain strong for her family. But her time at the sanatorium still haunts her to this day. She is constantly afraid that her family is going to get sick. She carries traditional medicines with her all the time, to help treat and prevent sicknesses; like rat root and cod liver oil. And if a family member is admitted into the hospital, she stays with them until visiting hours are over, praying and sitting vigil. She does this because she does not want them to feel alone, afraid, and abandoned as she did while in the sanatorium (D. Bear, personal communications, June 17<sup>th</sup>, 2013).

Reflecting on the causal loop diagram and Ida's story, it is evident that the left-hand side of the causal loop diagram represents the western biomedical model of health. This model of health has one focus: the biological processes of an individual, rather than individual social contexts. It focuses on treatment rather than on prevention (Shah, 2003). However, the right-hand side of the causal loop diagram that is represented in Ida's story speaks specifically to her Métis TB experience, inclusive of her social, economic, political, and cultural contexts. Through Ida's story it is clear that Métis peoples have health beliefs to explain what causes illness, how individuals can be healed or treated, and who should be involved in the process. As well, the extent to which Métis people perceive western health care practices as having cultural relevance for them has an immense effect on their willingness to use it. Although the western biomedical treatment improved Ida's physical health, it consequently negatively affected her social well-being within her family and community. Through her story we are able to recognize that Ida's social needs were completely ignored within western health care. Health and illness are experienced in social contexts and what we do in response reflects our cultural backgrounds,



practices, and norms, as well as our community, family, and individual interactions. Social contexts matter for health (Raphael, 2004). The causal loop diagram exposed and established that the social determinants of health are critical factors that need to be considered when understanding TB treatment, prevention, and education in Métis communities.

In Chapter Seven I provide a comprehensive discussion based on the results of the research. Moreover, I connect the results with the literature on western and Indigenous health and research paradigms, methods, and tools, specifically detailing Métis health and research paradigms, system dynamics, and the GMB method. The last sections of the chapter discusses the limitations and strengths of the research, further recommendations, and closing remarks.

## **Chapter Seven: Discussion**

Chapter Seven will answer the research questions posed at the beginning of this research: How can a Métis health and research paradigm applied with Métis peoples meaningfully incorporate a western research paradigm, specifically system dynamics, applied through a western research method (GMB)? What can we learn about experiences of TB in Métis communities using a blended Métis and western health and research paradigm to understand the issue? The answers to these questions are located in a consideration of why this matters, which is located in hegemonic biomedicine's limitations in dealing with TB and other inequitably distributed health outcomes. Some of this failure can be more generally explained by conceptual constraints in a biomedical health paradigm that has been broadly critiqued in favour of other western health paradigms, such as population health. As will become clear, even these alternatives do not go far enough to encompass the experiences and perspectives of Métis peoples, because they do not fully reflect Métis values and beliefs regarding health. More importantly, however, they fail to appreciate the central role that colonization plays in the health of Métis peoples. This does not mean that these alternate western health paradigms do not have merit in a Métis context. There are intersections and areas of articulation that I will argue, based on the results of this study, allow us as Métis people to benefit from western thought and experience while adapting them to fit our needs and circumstances. So, I begin this chapter with the larger issue of why the research questions matter. Then I answer the questions themselves, noting key points and recommendations. Strengths and limitations are recognized, and recommendations for future work are considered to conclude this chapter and the document as a whole.

### **7.1 Paradigmatic Hegemony: Why Does This Matter?**

#### **7.1.1 Health and Research Paradigms.**

There is a growing acknowledgement that health and health care are cultural constructs arising from beliefs regarding the nature of disease and the human body (Cunningham, 2009). The biomedical model of health remains a dominant perspective in many health care education systems and sites (Czyzewski, 2011), as well as in research. In addition, there is recognition that biomedical healthcare actually has little to do with health because it is based on the care of the sick, not the healthy. Biomedicine is grounded in biology as the fundamental determinant of

disease with psychological and social processes located independently from disease dynamics, treating the mind and body function as separate entities (Rootman & Raeburn, 1994). Biomedically-based treatment further focuses on diseases as separate and largely independent problems. The Royal Commission on Aboriginal Peoples (1996) reveals that,

...factors contributing to ill health of Aboriginal people stem not from biomedical factors, but from social, economic and political factors. Given the many causes of Aboriginal ill health, Commissioners are convinced that the problem-by-problem approach of Canada's health care system is not adequate; it does not address underlying causes and cannot trigger the fundamental improvements in life circumstances that Aboriginal people need. (Government of Canada, 1996a, p.184)

Euro-western perspectives on human health, however, have moved beyond a singular, biomedical focus to encompass the social determinants of health in a population health approach. In Canada we can trace this shift back to the Lalonde report of 1974 that suggested that the current medical system was not the primary factor influencing health. The report stepped away from the isolated, individual focus of medicine and public health approaches, to incorporate the social, economic, political, educational, and cultural environmental impacts on the health and well-being of populations (Raphael, 2004). A population health approach and framework allows for more holistic definitions of health and wellness, inclusive of physical, mental, emotional, spiritual, community, and environmental factors. It increases opportunities for acquiring significant understanding as to why some are healthier than others, and encourages health research to move beyond health care as maintaining and sustaining healthy populations (Raphael, 2006). For these reasons this approach has the potential to be invaluable to Indigenous health research.

A population health framework is not, however, without its critics. It also is a western model of health and as such has a specific position on the nature of knowledge construction with regard to health (Coburn et al., 2003). Population health approaches that use a social determinants of health framework have, for example, commonly excluded the macro, political-economic contexts that underlie them, such as the impact colonization has had on Indigenous languages, culture, and identity (Czyzewski, 2011; National Collaborating Centre for Aboriginal

Health, 2011). It is important to speak of colonial policies and the legacies they left behind when speaking about Indigenous health (Czyzewski, 2011). The impact of colonialism needs to be acknowledged as a central determinant (Gracey & King, 2009). Understanding colonialism as a determinant of Indigenous health establishes that intergenerational trauma affects health, and that colonization is not in the past. The ongoing social, political, and economic marginalization of Indigenous peoples, as well as their collective communities, is embodied in their health outcomes (Reading & Wien, 2009). Indigenous peoples of Canada continue to experience the legacy of colonization and poor health (National Collaborating Centre for Aboriginal Health, 2009). Czyzewski (2011) argues that colonization as a determinant of health may be best confronted through policy work and health research that promotes elimination of colonial relations and increases Indigenous people's autonomy and self-determination. As health promoters, evaluators, researchers, professionals, and/or students, we need to recognize that often research is a political activity constrained by power relations between the researcher and the researched or community programs and funders (Rootman, Goodstadt, Potvin, & Springett, 2001). Creswell (1998) states,

...researchers approach their studies with a certain paradigm or worldview, a basic set of beliefs or assumptions that guide their inquiries. These assumptions are related to the nature of reality (the ontology issue), the relationship of the research to that being researched (the epistemological issue), the role of values in a study (the axiological issue), and the process of research (the methodological issue). (p. 74)

Thus, confronting colonization as a health determinant through Indigenous self-determination of the research process would include the privileging of Indigenous health and research paradigms.

The best way to understand the health of Métis peoples is through their experiences and within their communities, viewed through an Indigenous health paradigm that moves beyond what is typically seen in western population health to be inclusive of the physical, cultural, social, emotional, and spiritual components of well-being (Reading & Wien, 2009). In addition the research paradigm needs to be grounded in the core values and beliefs held within the cultural context of the community. As the following sections will elaborate, within this research project every effort was made to ensure the equitable exchange of information by subsuming

contemporary western health, research, and scientific knowledge under contemporary and traditional Métis health, research, scientific, and community knowledge. To ensure the research fully reflected Métis perspectives, the project was guided and implemented by Métis individuals with well-known expertise in Métis health, and cultural, social, and political issues.

### **7.1.3 Intersections and Collaborations: How Was This Accomplished?**

TB is a condition that needs to be studied from a combination of Indigenous and western perspectives as it reflects a multifaceted blend of social, behavioural, demographic, and economic factors and circumstances. Therefore, it is important to move beyond traditional adherence to particular methods and tools of research. It should be recognized that both Indigenous and western research practices have a place in health and health care research, and I believe this project demonstrates ways that they can intersect and collaborate. Efforts should be made to understand why, when, and how to use one paradigm, or the other, or both, because separating paradigms may potentially generate inadequate and incomplete research results. The goal with blending paradigms and methods is to understand a system dynamics ‘whole system’ picture of TB within a Métis health and research paradigm of holism, interrelatedness, and interconnection. In this section I will answer the research question: How did system dynamics, applied through the GMB method, work within a Métis health and research paradigm applied with Métis peoples?

At its core, a Métis health paradigm understands that our lives are comprised of relationships, connections between all things living and non-living, as well as the metaphysical. As such, our daily lives are embedded in relationships of interconnecting interactions with all things (Kovach, 2009; Wilson, 2008). Wilson (2008) emphasizes that Indigenous research, therefore, is grounded in the ceremony of maintaining responsibility and accountability to all relationships. As such, Indigenous researchers are accountable to all our relations, throughout the research journey and once the research is complete. System dynamics is one particular paradigm that resonates within the Métis health paradigm because it is a relational framework. Vennix (1996), a key figure in the development of system dynamics thinking, explains that the creation of a system dynamics model produces a relational theory about a particular problem, about what is causing the problem, and what can be done to solve the problem. Vennix (1996) further suggests that particular methods of system dynamics allow diverse stakeholders to combine their knowledge and awareness of problems into a visible dynamic hypothesis. The group model

building (GMB) method paired well with a Métis research paradigm because the method allowed for individual research team members and participants to form kinship connections through shared stories, narratives, and actions. Vennix (1996) explains about GMB that relationship building is achieved by sharing thoughts, feelings, and experiences during a workshop/session, creating an environment that enables opportunities for elaborate and transparent discussions based on respect. From an Indigenous perspective, Wilson (2008) states,

Part of our methodology and axiology is that we are mediator in a growing relationship between the community and whatever it is that is being researched. How we go about doing our work in that role is where we uphold relational accountability. We are accountable to ourselves, the community, our environment or cosmos as a whole, and also to the idea or topics that we are researching. We have all of these relationships that we need to uphold. (p. 106)

Developing these thoughts further, Kovach (2009) reminds us that,

A foundational challenge for Indigenous researchers is the inevitability of being accountable to culturally and epistemologically divergent communities....The difficulty arises when research is told to look 'a certain way,' and follow the prescribed steps of a particular worldview that are incongruent with the steps (or order) that would occur in community. (p. 164)

In privileging a Métis health and research paradigm in this study we were able to honour our view of social reality, how we know what we know, our values, beliefs, and morals. Located within a Métis paradigm the tools of system dynamics, specifically GMB and causal loop diagrams, were successfully adapted to Métis research methods and tools.

The MN-S Research Team and workshop participants customized the GMB workshop to provide opportunities for honouring relationships, respect, relevance, and reciprocity through a Sharing Circle, storytelling and story listening, gift giving, and tobacco offering: all aspects of a Métis research paradigm and methods. As a team we chose the Sharing Circle method because it provides the opportunity for individuals to reflect the values of sharing, supporting each other, and respecting life experiences through personal interactions (Hart, 2002; L. Lavalée, 2009).

The Sharing Circle methodology can provide a greater richness of information while also

providing a culturally sensitive setting, more so than the conventional, commonly used, western, qualitative interviewing methods such as focus groups that underlie a typical GMB approach. Focus groups are led by the interviewer/researcher, usually with a small number of semi-structured questions. The role of the researcher is usually as the objective data collector. As such information sharing is primarily from participants to researcher. Conducting a focus group may include expenses for food, coffee, or small honorariums (Rothe, Ozegovic, & Carrol, 2009).

With the Sharing Circle methodology all participants know the theme of the storytelling before they attend. The unique feature of a Sharing Circle is the inclusion of the interviewer/researcher as a participant in the process. The interviewer begins the circle by sharing personal stories and experiences relating to the theme. Sharing Circles are open-ended storytelling and story listening processes, and participants share until they feel complete. At that point they pass a talking object, such as a feather or talking stick, to their left (Hart, 2002; L. Lavallee, 2009). Culturally appropriate gifts such as tobacco, and, in our case homemade jam, are provided in appreciation of the knowledge, time, and wisdom that are given, in addition to food and refreshment (Roberts, 2005; Settee, 2007). The choice of gift in our study was guided through consultation with a Métis Elder.

Stories play an important role in Indigenous culture, religion, politics, and education. Individual and community stories speak to cultural identity, beliefs, attitudes, and values that are continually created and maintained (Kovach, 2009; Settee, 2007; Wilson, 2008). Similarly, the western GMB method promotes the sharing and use of personal narratives as a form of legitimate knowledge contribution. It is a method deeply rooted in participation because all individuals involved share their beliefs, vision, and ideas of their mental models of the problem (Vennix, 1996). Sharing Circles are rooted in the ceremony of reciprocity, and Hart (2010), Kovach (2009), and Wilson (2008) teach that reciprocity is a sacred ceremony of individuals sharing in the acts of giving and receiving, listening and talking, teaching and learning. Using the Sharing Circle in the context of the GMB method worked because both methods honour storytelling and story listening for all those present, blurring the boundaries between researcher and participant.

Respect is also a core value of a Métis research paradigm. From inception, a GMB approach to data collection provides ample opportunities for team members and participants to establish and maintain respect. The GMB method fosters relationships by creating cohesiveness

in which members and participants support each other to move through the process together to create a shared reality, responsibility, and commitment to the collective outcome. Therefore, GMB creates opportunities for elaborate and transparent discussions based on respect (Vennix, 1996). Respect creates a relational space to honour good communication, which requires listening. By fundamentally listening to what another person has to say and truly taking it to heart, we can much better understand them and consequently, respect them (Archibald, 2008).

Often a metaphor such as a word, concept, symbol, or model is used as a heuristic method to express and/or comprehend an abstract concept (Carpiano & Daley, 2006). In many Indigenous communities a circle-style Medicine Wheel can be used as a metaphor for understanding health, wellness, and illness (Roberts, 2005). In a complementary way, system dynamics uses connection circles and causal loop diagrams as tools to aid in individual participants' understandings of 'whole systems' thinking (Vennix, 1996). The causal loop diagram turned out to be an excellent tool in this study because it identified the various factors different participant stories associated with tuberculosis, collectively linking them with arrows that often formed circular patterns of interconnectedness. This is significant in an Indigenous research context as circles represent important values in many Indigenous belief systems, representing equality, interconnectedness, and continuity (Hart, 2010). In short, the causal loop diagram visually and culturally resonated with the MN-S Research Team as well as the workshop participants.

The MN-S Research Team also believes that the GMB method can be viewed as a form of knowledge translation. This was demonstrated as the team interpreted the stories of the participants by translating their individual experiences and perspectives into a collectively constructed causal loop diagram in which they could all see themselves and their connections to the shared experiences of TB. The stories and the model are intimately connected and together represent a holistic understanding of Métis health. This is clearly demonstrated in Chapter Six, where I have presented both the causal loop diagram and the collective story of TB in our communities, drawing in the culture, history, and the intergenerational impact of TB disease and treatment on Métis families and communities. The complete causal loop diagram alone tells a story, which was easily back-translated through the collective narrative of Ida's story. An adapted GMB approach holds promise for addressing challenges to Métis community health in ways that reflect community concerns and interests.

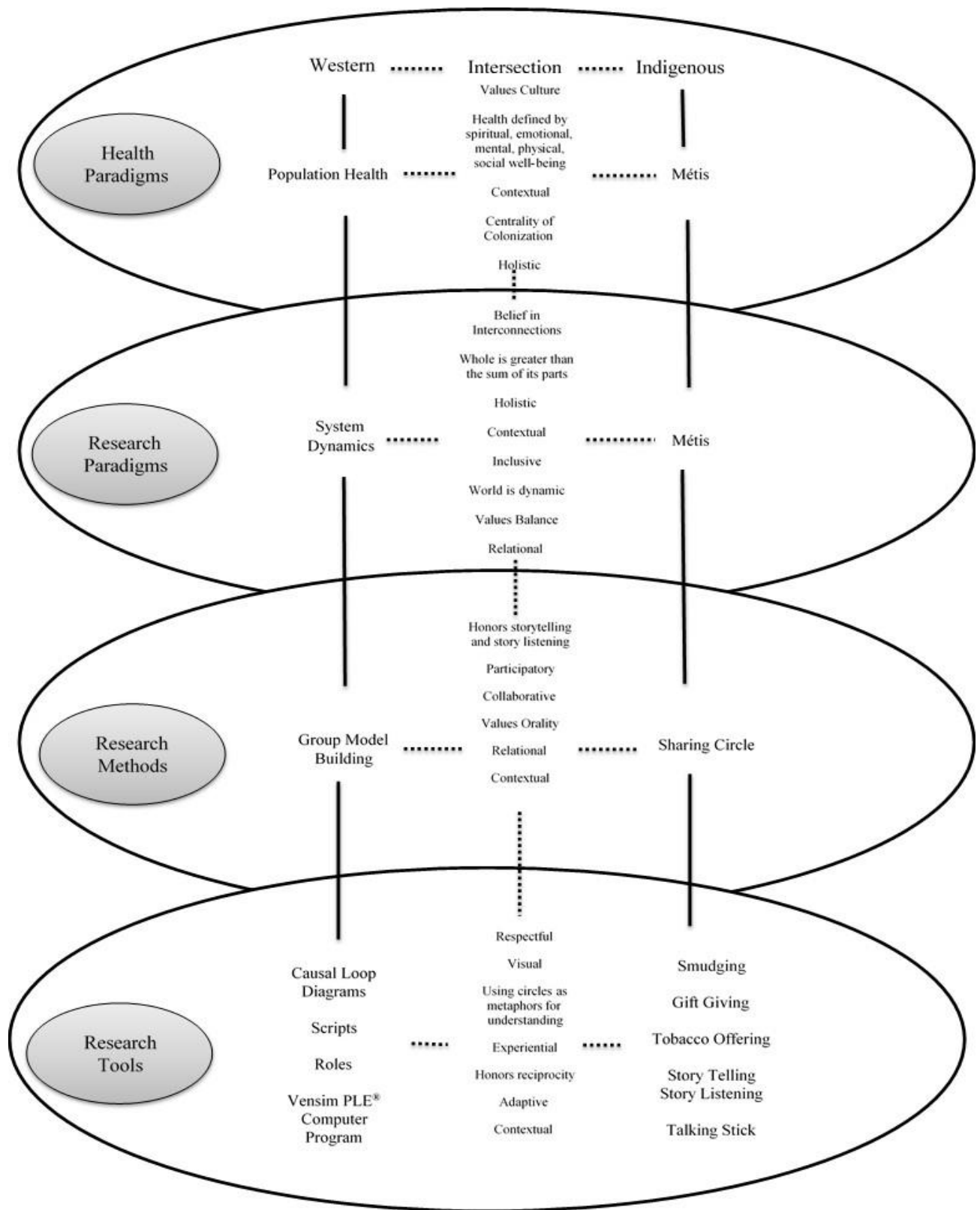


Successfully conducting TB research with Métis people could not be accomplished through the standard toolbox of research techniques. I understand now that it was not one specific method or tool that characterized the success of our process: it was all of the western and Métis methods and tools that collaboratively and synergistically worked together. If the outcome was the destination, our collaborative, relational process was the vehicle that got us there. Research team member Karen articulated the significance of the collaborative process for herself personally:

I even wrote a sticky note on my computer from one of the things that was said in the evaluation that struck a chord with me...“It’s not about where it goes, it’s about just going there” - a reminder for me every time I turn on the computer. (K. Yee, personal communication, August 20<sup>th</sup>, 2012)

Smith (1999) reminds me that “in many projects the process is far more important than the outcome. Processes are expected to be respectful, to enable people, to heal and to educate. They are expected to lead one small step further towards self-determination” (p.128).

We believe that our paradigmatic and methodological collaboration provides a new approach to understanding and thereby enhancing the health of Métis peoples of Canada. The conviction that Métis peoples are a source of strength in contributing to their improved health outcomes, education, promotion, and prevention is also accomplished. Figure 27 summarizes the intersections we negotiated and operationalized at all levels of this research, from health and research paradigms to research tools.



**Figure 27. Theoretical framework.**

(Figure created by A. LaVallee using Microsoft Word)

#### **7.1.4 Experience of TB in Métis Communities: What Did We Learn?**

So what did we learn about experiences of TB in Métis communities within a blended Métis and western health and research paradigm? Chapter Six provided a clear and detailed answer to that question. Here I wish to draw out two key observations: First, TB was and still is a disease of colonization for Métis people. Second, system dynamics thinking and tools may offer an approach for meaningfully intersecting biomedical approaches to other paradigms of health, to address TB or any number of multiple chronic issues that the biomedical model of health has not been able to holistically address with its problem-by-problem approach.

##### ***7.1.4.1 TB is Still a Disease of Colonization in Canada.***

During 200 to 300 years of fur trade contact and the implementation of colonial policies, masses of Indigenous peoples died of diseases such as smallpox, TB, influenza, scarlet fever, and measles due to little pathogenic resistance (Grzybowski & Allen, 1999). Disease dynamics of Indigenous communities in the 19<sup>th</sup> and 20<sup>th</sup> century were hugely impacted by the residential school system and the creation of the reserve system and Scrip (Government of Canada, 1996b). These historical events and colonial policies (and many more) have had a profound impact on the morbidity and mortality patterns of Indigenous peoples of Canada. The cumulative and ongoing effects of colonization have shaped the lives of most Indigenous peoples today (Jones, 2006).

Colonial policies also marginalized the Métis peoples. The Manitoba Act of 1870 implemented the Scrip system that produced conditions of marginalization and poverty to Métis peoples. Scrip ostensibly delivered 1.4 million acres for Métis land claims in the form of a special certificate issued by the Department of the Interior, entitling Métis individuals to receive homestead lands. Upon presentation of the document to the proper authorities, Scrip could be exchanged for either money or land. However, the Scrip system was poorly administered by the federal government, and the paper certificate was unintelligible by the many Métis people who were illiterate (Sealey & Lussier, 1975). Consequently, Scrip was often stolen, lost, given away, or sold to corrupt and fraudulent land surveyors, banks, and embezzlers (Brizinski, 1993). Many Métis people found themselves pushed off their traditional land and without a home. For that reason, the dispossessed Métis squatted on unoccupied crown lands set aside by the federal government for the development of roads (Sealey & Lussier, 1975). These settlements, often on the fringes of reserves and towns, were poverty stricken with scant and poor housing, no access

to educational opportunities, resulting in people's suffering from numerous health issues such as malnutrition and TB (Barron, 1997).

The spread of TB in the early 20<sup>th</sup> century caused fear and panic amongst Indigenous and non-Indigenous communities. From the end of the 19<sup>th</sup> century to the middle of the 20<sup>th</sup>, healthcare was provided by the federal and provincial governments. However, this health system operated on the assumption that all Indigenous people would welcome western-style health care services. For the most part they did, because it was during a time in which infectious diseases continued to be fatal in their communities and the impact of medical treatment was immediate. But these benefits did not come without a price (Government of Canada, 1996a). The trauma Indigenous peoples and their families faced within the western health care system left its mark on their lives. Prior to anti-tuberculosis drugs, sanatoriums (1917-1950s) served a vital purpose in public health and safety, because they removed infected individuals from their communities and promoted recovery in isolation for anywhere from a few months to several years (MacKenzie, 2002). Although western health administrators deemed this TB strategy effective, it was a socio-cultural tragedy for many Indigenous peoples of Canada (Moller, 2010). Family members were separated for months and even years. Individuals returning to their communities required considerable effort and time to rebuild and re-establish as a family and into their community (Staples, McConnell, & Oakes, 1964):

When I got back from the sanatorium, everyone was happy to see me so we had a feast. My mom put the table cloth out and it was like a picnic every day for us because we didn't have tables. We just had the tablecloth on the floor and everybody sat around it. Everybody was sitting down to eat. Everybody was passing around the food and, just like a celebration, they are sitting down. Everybody was laughing, and here I am just quietly walking around, looking at everybody. My mom stopped and says, "What's the matter, babe? Aren't you going to sit down and eat with us?" I just looked at everybody, and I said, "Do I have to sit down like an Indian?" Everybody laughed at the time, but they didn't realize that I came back from the sanatorium with different ideas. (Moffat, Mayan, & Long, 2013, pp. 1594-1595)

The negative socio-cultural and interpersonal impacts Indigenous peoples experienced as a result of TB treatment at sanatoriums directly impacted not only their well-being, but as this study clearly demonstrates, that of their children, grandchildren, and so on. Because so many individuals were affected for such a long period of time, many communities have a shared, collective experience with related collective memories and stories that have disturbed and distressed subsequent generations of those that were initially ill-treated (Bombay, Matheson, & Anisman, 2009). Formally recognized as intergenerational trauma, the harmful effects of traumatic experiences are essentially passed down through the generations from those who have had the experiences, to their family members, regardless of whether those family members have directly experienced the same trauma (Aboriginal Healing Foundation, 2006). The intergenerational experience of TB was revealed as highly significant to the contemporary narrative, as none of the participants at our GMB workshop had direct experiences at a sanatorium, nor had they ever been diagnosed with TB. The stories of their parents, grandparents, aunts, uncles, and others in their communities were so vivid and powerful that they framed everything participants understand and perceive about TB and health care today. Their stories revealed that contemporary health care continues to be mistrusted and linked to colonization, rather than something that could help and heal them and their communities. The obvious conclusion here is that while a biomedical paradigm can offer approaches to treatment of TB disease, it is insufficient to treat the illness experience as a whole – for both individuals and communities.

#### ***7.1.4.2 System Dynamics as an Intersection between Biomedicine and other Health Paradigms.***

Research indicates that the majority of TB cases in Indigenous communities are ultimately linked to contemporary social and economic problems such as overcrowding, poor nutrition, carelessly built and overcrowded houses, poor drinking water, high unemployment and incarceration rates, rural/remoteness of the community, and substance abuse (Public Health Agency of Canada, 2013; Hader, 1990). We have long known that a biomedical approach alone does not reveal or treat these multiple factors, which represent the social contexts within which diseases occur (Gray, 1996). The health care policy and delivery community is engaging with some of this in the literature, with dialogue that considers the development of communities of practice, or medical neighbourhoods that would minimally seek to integrate currently fragmented

health care (Greenberg et al., 2014). As described above, in an Indigenous context these multiple factors and social contexts can be linked to colonization. Therefore, to truly tackle TB with Indigenous peoples, healthcare professionals and researchers must engage with social structures and power embedded in colonization as part of the treatment strategy (McMullin et al., 2012). It would seem that development and broadening of biomedically-based ideas around communities of practice to include others outside of healthcare, such as affected communities and peoples, could be facilitated through applying the health and research paradigms and tools employed in this study.

System dynamics, with its methods and tools, invites health clinicians, administrators, educators, researchers, and community members who currently respond to multiple health problems in a silo-type approach to collectively develop a keen understanding of, and develop solutions for, the connections and interactions between concurrent and persistent diseases in a population, together with the social conditions that contribute to them (Tian, 2012; Homer & Hirsh, 2006). There is potential here for transformational change, in particular if we locate system dynamics with health paradigms appropriate to the populations of interest. With a broad array of approaches, methods, and tools, system dynamics has the ability to include and locate biomedicine within the larger context of the social determinants of health, as they would be articulated by different population groups. This is apparent in the causal loop diagram produced for this study, where the biomedical disease treatment experiences are located within a larger structural context that was guided by a Métis health paradigm. What we learned within this research is that system dynamics, explored through a GMB approach, may make it easier to talk, visualize, and theorize about chronic and infectious disease with communities and stakeholders. This method can help build capacity by strengthening stakeholders/individuals skills, competence, processes, and resources of themselves, community, and/or the organization they work for (Vennix, 1996). This has worked in areas outside of health and health care. Stave (2010) found that participatory system dynamics modeling, which includes GMB as a tool, was an ideal framework and method for sustainable environmental management. In her study of four cases she noted that while several participants were apprehensive of the value of the model building exercises at the beginning, by the end they became enthusiastic supporters. The tools of system dynamics, such as causal loop diagrams, can help flesh out and draw a larger interconnected picture of disease dynamics inclusive of social contexts, beyond one cause and

one effect. This may be helpful with intervention strategies, in that it may assist healthcare professionals and other stakeholders in locating themselves in the larger patient and population context and experience.

## **7.2 Strengths, Limitations, and Recommendations**

Research is the search for knowledge of hidden, untold, and/or unheard truths, and our project specifically shed light on Métis TB truths in Saskatchewan. Therefore, this study contributes to Métis health research in general, and more specifically to Métis health research within Saskatchewan; to TB research; and to system dynamics research – in particular the GMB method. However, there are some limitations of the design and/or methodology that impact or influence the presentation or interpretation of the results.

The MN-S Research Team sought to make the invisible visible: namely Métis health disparities. We created a space for dialogue on Métis culture, health, and well-being to occur by asking participants in this study to share their experiences and understanding of TB. As such, one of the most advantageous features of our research project was the small number of participants and team members. The small number of people allowed for our project to be fundamentally participatory in nature, providing opportunities for participant and team input into the entire research process in a way that would not be possible with a large number of participants (in which the MN-S research team was included). We had ample time for sharing of personal and family stories, and for the creation of emotional connections between participants and team members. In the end, our collaborative research was rooted in Métis voice and participation, and all produced knowledge was authenticated by the MN-S Research Team and Métis participants.

There are, however, substantive limitations. Our findings are specific to a Saskatchewan Métis health context, and the aspects of Métis culture presented in this document are very particular to the community (urban Saskatoon) and individuals involved. Although generalizability was not our intention for this research, given more time and resources it would have been valuable to facilitate additional GMB workshops with Métis peoples and communities, as well as other stakeholders involved in TB dynamics, for example, health ministries, health care organizations, and social services. In terms of future research, there is enough here for other communities and researchers to pick up our causal loop TB narrative and carry it forward to build a more comprehensive and nuanced causal loop diagram and accompanying collective narrative.

As a Research Team at the start of our research process we began with what we saw as two systems of knowledge and science; Métis and Western. At the time we thought they were profoundly different, setting them up as binary opposites. This dichotomous thinking impeded our research growth and created a limitation at the beginning of our project. In addition, we framed being Métis as a being entrenched, constructed of two parts -Western and Indigenous. It was as if over the time since our peoples came together we had not become fully and wholly Indigenous in our own right. This is where we were as a team at the beginning of this research, and where I was also as a Métis person; negotiating my place and identity in the multiple worlds I traverse daily. This was a limitation, but our research process of learning and growing together as a team, as well as our research methods, created a strength within this research. Through our continued and critical sharing of our thought processes and application of our research we were provided with new insights that have contributed to a renewed interpretation of our collaboration, middle ground, intersection and convergence between these two traditions and paradigms. It was not until we began to learn from each other and the research that we were able to reflect and learn from our aha moments and move forward collectively shedding our binary divisions. Ultimately, we gained a new awareness of the shortcomings that our simple binary explanations were giving us. We realized that our identity, reality, health, life, and research is not as binary as we thought. Having black-or-white thinking did not allow for the many different variables, options, conditions, and contexts in which there could exist more than just the two possibilities. Therefore we changed our thinking along our research journey because we did not want to be misleading, dishonest, and irrational because it was evident that there were more possibilities when blending knowledge, science, and research than the either/or choice. I do not think it could have unfolded much differently given the context we started with. I wonder now, though, how this research will look as I move forward without the contrasting binary approaches to knowledge, science, and my own location as a fully Indigenous Métis person.

This research contributes to a growing body of knowledge on Métis research methods, tools, and ethics that are useful to the research community more broadly. Our ways ensure research approaches and processes that are relational, respectful, inclusive, responsive, truthful, and empowering. More significantly, this study provides experience and resources for blending Métis and western research paradigms and methods. Researchers and practitioners working with Indigenous populations and patients are encouraged to consider combining local Indigenous



knowledge on health, healing, and well-being with western medicine. Future research could test the blended approach used in this study with other disease conditions affecting Métis peoples, providing conceptual and methodological refinement.

Given some limitations, it must be noted that this research provides the first ever documented, Métis-specific GMB workshop in Saskatchewan and Canada. Our project was dedicated to the conceptualization stage of system dynamics, which in turn focused on the creation of a causal loop diagram. We created the first causal loop diagram on TB in Métis communities.

Further research would build beyond the conceptualization stage of system dynamics to include formulation, testing, and implementation stages. These latter stages would allow intervention points to be identified and tested with mathematical models. The challenge here is that the data on TB and Métis peoples that would be required to move to computational modeling is lacking. This can be tackled through community-based research: researchers and health officials engaging Métis citizens of Saskatchewan to help define and develop a Métis definition of health, population health framework, and health indicators. Although research has been initiated by Métis Nations/Federations across Canada, The National Collaboration Centre for Aboriginal Health, and independent students and researchers<sup>41</sup>, much more is needed. That being said, federal, provincial, and municipal governments must create partnerships with Métis individuals, communities, and organizations to track infectious and chronic diseases, and to include Métis identifiers in socio-demographic population level data (e.g. surveys, administrative data), linkable to health outcomes data.

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<sup>41</sup> To name a few:

Bourassa, C. (2008). *Destruction of the Métis Nation: Health Consequences*. (Doctoral dissertation). Retrieved from <http://voyager.uregina.ca:7008/vwebv/holdingsInfo?bibId=1610872>

Anderson, M., & Smylie, J. (2009). Health systems performance measurement systems: How well do they perform in First Nation, Inuit, and Métis contexts? *Pimatisiwin: A Journal of Aboriginal Health and Indigenous Community Health*, 7(1), 99-115.

Desmarais, D. A. (2013). *Colonialism's impact on the health of Métis elderly: History, oppression, identity, and consequences*. (Doctoral dissertation). Retrieved from <http://ourspace.uregina.ca/handle/10294/3779>

### 7.3 Concluding Thoughts: An End Has a Beginning

As Métis people we have our own philosophies, knowledge, methodologies, and methods. I think that it is our own Métis research paradigm and ways of generating new knowledge that hold the greatest potential for finding solutions to our health disparities. For that reason, a motivating vision for me as a Métis health researcher has been to help develop and build upon a Métis research paradigm, methods, and ethics to explore and inspire Métis researchers in the field. I am determined to create a research space for Métis knowledge, experience, and expertise to be utilized and valued. As such, I choose to engage in research that can create opportunities for Métis people in the participation and control of research processes and outcomes. We came to the profound realization that some of our ideas on health and research (Métis and Western) are similar and together can provide and produce valuable knowledge. Roberts (2006) reminds me,

...I am a bridge between Western research and my community. Furthermore, my allegiance must always be first and foremost, to my community. And so being firmly ensconced in the ethical space, I took my proverbial toolbox of Western methodologies and ethical protocols in hand, and departed on my research journey back home. (p. 138)

In the act of deconstructing this binary dichotomy we created a space for new ideas, notions, and concepts. Métis and Western knowledge, science and research do not need to be in opposition of each other – instead, can synergistically work together to enhance each other. As such, creating intentional research with intentional and flexible language, methods, and tools to be more accessible to a wide interdisciplinary and culturally diverse audience.

As a Métis student researcher, I was absorbed in this research journey, which had deeper meaning and understanding for me as a Métis woman beyond achieving a doctoral degree. My core research values lay in my desire to benefit my community, research partners, collaborators, and participants in some way. As I became intertwined with the MN-S Research Team, I found myself surprised, touched, and awed by the connections we had as a team. Overall, I learned some very valuable lessons; I learned that when I engage in relational research, I must be prepared to fundamentally alter any preconceived assumptions that I may have about my role in my community, in academia, and in research. I learned that relationships provide an opportunity

for ethical enhancement by helping me to recognize my potential as a Métis community member and researcher. I believe all researchers need a community of people to share the joys and the struggles of research because solidarity can enhance research projects processes and outcomes.

The value and power of this research project was dependent upon relationships. The strong relationship the MN-S Research Team had enabled us to have increased confidence, commitment, unity, and feelings of safety. We were committed to each other as a team, and as a result we were able to develop a shared vision, ownership, and commitment to the research process and outcome. I had to be trustworthy and honest with my team members, engaging in a manner consistent with my stated community and research values of respect, reciprocity, relationships, and relevance. I had to ‘walk my talk’. I deeply care about this research and my team members, which showed in my attitudes and actions. They knew they could count on me, and I knew I could count on them. Each team member had a willingness and personal commitment far beyond being dedicated to our team and even our Métis communities. Our personal accountability was a humbling experience that helped us understand the colonial legacy of TB within our families and communities. We believe our philosophical and methodological contribution extends beyond the Indigenous context in which it was developed, and we hope it will be useful to others living and grappling with inequities in opportunities and health outcomes that are so commonly experienced.

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## **APPENDIX A: COLLABORATION AGREEMENT**

### **PROJECT TITLE**

Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: TB in Saskatchewan Métis Communities (*Title is subject to change*).

### **PARTNERSHIP**

This document constitutes an agreement of collaboration between the Métis Nation-Saskatchewan (MN-S), as represented by the Director of Health, Tara Turner and Cheryl Troupe with the University of Saskatchewan as represented by Amanda LaVallee (PhD Student Researcher).

### **PURPOSE**

The purpose of this Agreement is to establish a set of principles that will guide the conduct of the research project entitled “Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: A Group Model Building Project on TB in Saskatchewan Métis Communities.” These principles recognize and emphasize Métis cultural values and perspectives in the research process.

### **PRIMARY RESEARCH TEAM**

Amanda LaVallee, BSW, MSW, RSW, PhD Candidate (PhD Student – University of Saskatchewan)

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

Cheryl Troupe, MA (MN-S Health Department)

Karen Yee, MSc. MPH (Research Collaborator– Public Health Researcher)

Irini AbdelMallek, M.B., Ch.B., M.D., MPH. (Research Collaborator– MD)

### **PROCESS RECORDS**

The *student researcher (Amanda LaVallee)* will coordinate all organizational and administration responsibilities concerning this research project. As such, acknowledging the collaborative partnership with the MN-S. The MN-S Research Team will be based in Saskatoon at the office of the MN-S and at the University of Saskatchewan.

### **DURATION AND CHANGES**

This research collaboration agreement will be in effect throughout the entire research process, through the development of the ethics application, research methodology, data collection, analysis phases, knowledge translation and publication of the findings. This agreement can be adjusted and rewritten upon mutual consent by the *partners to this agreement*.<sup>42</sup>

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<sup>42</sup> This research Collaboration Agreement has been adapted and revised from “Research Collaboration Agreement Template 2011” Written by Kathi Kinew, for The Assembly of Manitoba Chiefs. Retrieved from [http://amc.manitobachiefs.com/images/pdf/research\\_collaboration\\_agreement\\_template\\_2011.pdf](http://amc.manitobachiefs.com/images/pdf/research_collaboration_agreement_template_2011.pdf)

## **ETHICAL CONSIDERATIONS**

Ethics are rules of conduct that help to distinguish between acceptable and unacceptable behavior. A Métis research paradigm outlines ethics, responsibilities, and accountabilities for the research and to the community (refer to Good Practice Guidelines). Intertwined are the cultural, ethical, and moral responsibilities the Research Team will have as co-researchers and partners of this project. It is the responsibility of the student researcher (Amanda LaVallee) to negotiate the ethical considerations of the community partner and the academic institution. Therefore, the student researcher will adhere to a Métis research ethics and the University of Saskatchewan Behavioural Research Ethics. It is also the responsibility of the student researcher to ensure that ethical approval is obtained by the MN-S and by the University of Saskatchewan Behavioural Research Ethics Board.

Outlined below are the ethical procedures/considerations used or applied within this research:

### ***University of Saskatchewan***

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

### ***Indigenous Peoples' Health Research Centre (IPHRC)***

The Indigenous Peoples' Health Research Centre stresses the importance that research should empower the community to support community goals of health and wellness. Research should help to create community sustainability and responsibility for improving the future for Indigenous young people of today.<sup>43</sup>

### ***National Aboriginal Health Organization (NAHO)***

NAHO's has outlined Indigenous research ethics in their article titled "Ownership, Control, Access, and Possession (OCAP) or Self-Determination Applied to Research: A Critical Analysis of Contemporary First Nations Research and Some Options for First Nations Communities". OCAP applied to research include Indigenous ownership, control, access, and possession of the research. OCAP is a political research agenda that puts Indigenous ways of knowing, being, and doing at the forefront. It outlines the importance of Indigenous peoples and communities right to own, control, access, and possess information about themselves and their people. Ownership and rights of the research determine how the data will be managed in the present and future. These will be documented early in the project. The researcher will work with the MN-S to determine the conditions of access to and use of research data.<sup>44</sup>

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<sup>43</sup> <http://iphrc.ca/resources/archives>

<sup>44</sup> Schnarch, B. (2004). Ownership, control, access, and possession (OCAP) or self-determination applied to research: A critical analysis of contemporary First Nations research and some options for First Nations communities. *Journal of Aboriginal Health*, 1(1), 80-95.

NAHO has release an article titled, “Principles of Ethical Métis Research” that outlines ethical guidelines involving Métis research. This document provides a baseline for how to conduct research with and for Métis people and communities.<sup>45</sup>

The research collaboration partners to this agreement collectively share the responsibility for ethical standards throughout the research endeavour. In addition, each member of the *Research Team* has responsibility for raising any ethical concerns and/or issues.

## **GOOD PRACTICE GUIDELINES**

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

- The *Research Team* will strive to include meaningful and equal participation from Métis community members. Therefore, the above mentioned parties will be involved as partners from the development of the ethics application, methodology, data collection, analysis, knowledge translation, and publication of the findings.
- The *Research Team* will respect and value each research collaborator/partner/participant and their knowledge. This respect will be based on creating relationships grounded in connection, communication, transparency, honesty, and trust.
- The *Research Team* accepts the responsibility to uphold the integrity that involves carrying out this research project.
- The *Research Team* will collectively make decisions on the ethics application, methodology, data collection, analysis, knowledge translation, and publication of the findings.
- The *Research Team* will work to ensure that the research project is relevant and beneficial to the MN-S.
- The *Research Team* agrees that the knowledge translation activities will be in the language and manner appropriate to Métis peoples.
- The *Research Team* will strive toward clearly explaining the purpose of the *research study* and its benefits and risks in a language that is appropriate to the people receiving the information.
- All members of the *Research Team* will be provided the opportunity to review and comment on findings prior to publication or presentation.
- *The student researcher (Amanda LaVallee)* is responsible for obtaining ethics approval with the University of Saskatchewan Behaviour Ethics Board prior to engaging in research activities.
- *The student researcher (Amanda LaVallee)* is responsible for maintaining the integrity of all data collected, such as storing participant consent forms, storing and destroying data. All handwritten field notes, reflexive journal, and other notes will be stored in a locked receptacle that is secured in place, in the student researcher’s home. The student researcher will be the only person to have access. The computer used for data collection (field notes, interviews, and transcripts), and data analysis is

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<sup>45</sup> [http://www.naho.ca/documents/metiscentre/english/PrinciplesofEthicalMetisResearch-descriptive\\_001.pdf](http://www.naho.ca/documents/metiscentre/english/PrinciplesofEthicalMetisResearch-descriptive_001.pdf)

password protected. At the end of the research phase the student researcher will assume responsibility for the storage of data. Data will be stored in a locked filing cabinet in the office of supervisor, Dr. Sylvia Abonyi, at the University of Saskatchewan, Department of Community Health and Epidemiology in Saskatoon until the completion of the student's dissertation work.

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

Name of Research Partner (please print) \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of Research Partner (please print) \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of Research Collaborator (please print) \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of Research Collaborator (please print) \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of PhD Student Researcher (please print) \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX B: MEMORANDUM OF UNDERSTANDING

### Memorandum of Understanding

Dual Roles: Co-Researcher and Participants

The student researcher (Amanda LaVallee) will work in collaboration with the MN-S Research Team (Dr. Tara Turner, Cheryl Troupe, Karen Yee and Irimi AbdelMallek) and engage in a relationship that identifies us simultaneously as co-researchers and participants.

As co-researchers we understand and assume positions of authority similar and equal to the student researcher. As co-researchers we appreciate that we have input into all stages of the research process including: the research proposal, protocols, procedures and ethics, data collection, analysis and interpretation stages of the research. Some specific activities as co-researchers include the planning and preparation of the Beh-REB ethics application; preparation, organization, and facilitation of the GMB workshop; facilitation of the participant storytelling and story listening evaluation of the GMB workshop.

We understand that as the MN-S Research Team our roles will change to become participants at the end of the GMB workshop. We know (as a group) we will be asked to evaluate the GMB method for the final conclusion of the project through means of storytelling and story listening. As research participants we understand that we reserve unconditional or absolute 'right' of withdrawal from the evaluation of the GMB workshop at any time and without giving any reason.

Name of Research Partner: **Dr. Tara Turner**

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of Research Partner: **Cheryl Troupe**

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of Research Collaborator: **Irimi AbdelMallek**

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of Research Collaborator: **Karen Yee**

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name of PhD Student Researcher: **Amanda LaVallee**

Signed \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX C: ADAPTED SCRIPTS

### (1) Logistics and Room Arrangements

<b>Description</b>	Preparing room for group model building session
<b>Context</b>	This script is used to evaluate and plan arrangement of room for a group model building session
<b>Purpose(s)</b>	<ul style="list-style-type: none"> <li>To assure the room layout is appropriate for intended activities.</li> </ul>
<b>Nature of group task</b>	<ul style="list-style-type: none"> <li>Evaluative: activity designed to evaluate and choose between options and ideas, specifically the room arrangements and logistics needed for the exercise to be successful</li> </ul>
<b>Time</b>	<p>Preparation time: 10 minute to assemble materials</p> <p>Time required to complete steps in script: 20 minutes</p> <p>Follow up time: up to 90 minutes</p>
<b>Materials needed to complete script</b>	<ul style="list-style-type: none"> <li>Blank 8.5x11” paper to record room map</li> <li>Pen or pencil</li> </ul>
<b>Inputs from other scripts</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>Outputs from this script</b>	<ul style="list-style-type: none"> <li>Physical map of desired room layout indicating location/seating arrangement of participants and members of the modeling team</li> <li>List of tasks for completing room setup (e.g., “Sam—get flip charts for exercise”, “Sue—check data projector with computer”)</li> </ul>
<b>Team roles required and expertise needed</b>	<ul style="list-style-type: none"> <li>GMB facilitator</li> <li>Recorder to complete map and record assignments</li> </ul>
<b>Who is in the room?</b>	<ul style="list-style-type: none"> <li>Members of modeling team</li> </ul>
<b>Steps</b>	<ol style="list-style-type: none"> <li>Modeling team assembles in room at agreed-upon time</li> <li>Team identifies positions of presentation positions (screen, projector, etc.)</li> <li>Team discusses seating arrangements for participants</li> <li>Team decides on positions for all members of modeling team (e.g facilitator, modeler, recorders, etc.)</li> <li>Identify other materials needed (e.g., flip charts, markers, tape)</li> <li>Review action items, assign responsibilities</li> </ol>
<b>Evaluation criteria</b>	<p>Members of modeling team know positions during the exercise</p> <p>No room layout or logistical snags during the actual session</p>
<b>Author(s)</b>	Timothy Hower (thower@wustl.edu) and Peter Hovmand (phovmand@wustl.edu) April 6, 2010 Adapted November 24th, 2011 by Amanda LaVallee
<b>History &amp; Basis for Script</b>	Based on Luna-Reyes et al. (2006)
<b>Revisions</b>	April 6, 2010 Converted and revised to present format
<b>References</b>	Luna-Reyes, L. F., Martinez-Moyano, I. J., Pardo, T. A., Cresswell, A. M., Andersen, D. F., & Richardson, G. P. (2006). Anatomy of a group model-building intervention: Building dynamic theory from case study research. <i>System Dynamics Review</i> , 22(4), 291-320.



## (2) Etiquette and Prayer

<b>Description</b>	This script is used before a GMB session – The MN-S protocol is to ask the Senator in the room to say the prayer – if a Senator is not in the room –the Eldest person in the room will be asked to say an opening prayer.
<b>Context</b>	May be used before each GMB session.
<b>Purpose(s)</b>	<ul style="list-style-type: none"> <li>To respect the Senators and Elders of the region. In many Indigenous communities, Elders play a prominent and respected role in all aspects of life; counsel, advice, and guidance about maintaining harmony and balance in the community.</li> </ul>
<b>Nature of group task</b>	<ul style="list-style-type: none"> <li><b>Building Connection &amp; Trust</b></li> </ul>
<b>Time</b>	Preparation time: None Time required completing steps in script: 5-10min. Follow up time: 5mins to say thank-you.
<b>Materials needed to complete script</b>	<ul style="list-style-type: none"> <li>Tobacco</li> </ul>
<b>Inputs from other scripts</b>	<ul style="list-style-type: none"> <li>NO</li> </ul>
<b>Outputs from this script</b>	<ul style="list-style-type: none"> <li>Elder will accept the tobacco and provide the opening prayer for the workshop</li> </ul>
<b>Team roles required and expertise needed</b>	<ul style="list-style-type: none"> <li>No (volunteer MN-S research team member)</li> </ul>
<b>Who is in the room?</b>	<ul style="list-style-type: none"> <li>All participants and MN-S research team members</li> </ul>
<b>Steps</b>	<ol style="list-style-type: none"> <li>A member of the MN-S research team will approach the Senator and/or oldest individual in the room.</li> <li>Senators/Elders must be offered a gift of tobacco, sage, tea, or sweetgrass when you ask them to share their knowledge. If the Senator/Elder accepts the tobacco s/he is accepting the request. Tobacco can be given in a pouch, wrapped in a piece of cloth or even in the form of a cigarette. The minimum amount of tobacco is the amount needed for use in a Ceremonial Pipe, but a pouch of tobacco is still the most common form.</li> <li>Place the tobacco in front of the Senator/Elder and state your request. The Senator/Elder indicates acceptance of your request by picking up the tobacco. Always speak to the tobacco when making your request, BEFORE handing the Senator/Elder the tobacco.</li> <li>Ask the Senator/Elder is s/he is willing to provide the opening prayer or setting a good intention for the start of the workshop. (Not all Elders will pray – some may speak good words)</li> </ol>
<b>Evaluation criteria</b>	The Senator/Elder will accept tobacco and provide a prayer to the group
<b>Author(s)</b>	Amanda LaVallee – Cheryl Troupe, January 2012
<b>History &amp; Basis for Script</b>	Based on cultural practised of Amanda LaVallee. Also based on guidance from a Metis Elder and Cheryl Troupe
<b>Revisions</b>	--
<b>References</b>	--

### (3) Relational Contexts: Honoring Individuals

<b>Description</b>	This script is used to introduce all participants and MN-S research team before GMB session.
<b>Context</b>	May be used before each GMB session.
<b>Purpose(s)</b>	<ul style="list-style-type: none"> <li>• To create a space for individuals share who they are, their family, thoughts, concerns, and feelings about the GMB session, their roles, and process issues/successes. (To accelerate learning and make improvements)</li> </ul>
<b>Nature of group task</b>	<ul style="list-style-type: none"> <li>• <b>Building Connection &amp; Trust</b></li> </ul>
<b>Time</b>	Preparation time: None Time required completing steps in script: 20-40mins, depending on the number of people at workshop. Follow up time: None
<b>Materials needed to complete script</b>	<ul style="list-style-type: none"> <li>• Chairs in a circle or around a table</li> </ul>
<b>Inputs from other scripts</b>	<ul style="list-style-type: none"> <li>• Final, detailed version of the Script from GMB session being debriefed</li> </ul>
<b>Outputs from this script</b>	<ul style="list-style-type: none"> <li>• A list of all individuals at the workshop</li> </ul>
<b>Team roles required and expertise needed</b>	<ul style="list-style-type: none"> <li>• Emcee</li> </ul>
<b>Who is in the room?</b>	<ul style="list-style-type: none"> <li>• All participants and MN-S research team members</li> </ul>
<b>Steps</b>	<ol style="list-style-type: none"> <li>1. All participants and MN-S team will be gathered in the board room. A team member will announce the start of the workshop.</li> <li>2. Everyone sits on a chair in a circle or around a table.</li> <li>3. Round Robin (Clockwise) style. Each participant and MN-S team has the opportunity to share their name and anything about themselves - one at a time.</li> </ol>
<b>Evaluation criteria</b>	<ol style="list-style-type: none"> <li>1. Stronger, more cohesive relationships built between participants and MN-S team we learn about each other.</li> </ol>
<b>Author(s)</b>	Amanda LaVallee, 2011
<b>History &amp; Basis for Script</b>	Based on cultural practised of the Author. Also based on guidance from a Metis Elder.
<b>Revisions</b>	--
<b>References</b>	--

#### (4) Sharing Circle: TB Stories and Experience

<b>Description</b>	This script is used gather stories and factors to be used in creating a causal loop.
<b>Context</b>	A sharing circle is used to establish a safe non-hierarchical place in which all participants and GMB team have the opportunity to speak without interruptions.
<b>Purpose(s)</b>	<ul style="list-style-type: none"> <li>• To assure the room layout is appropriate for intended activities.</li> </ul>
<b>Nature of group task</b>	<ul style="list-style-type: none"> <li>• Rather than active verbal facilitation, communication is regulated through the passing of a talking piece (an object of special meaning or symbolism to the circle facilitator who is usually called the circle keeper). The talking piece fosters respectful listening and reflection. It prevents one to one debating or attacking.</li> </ul>
<b>Time</b>	<p>Preparation time: 10 minute to assemble materials</p> <p>Time required to complete steps in script: Undetermined</p> <p>Follow up time: Undetermined</p>
<b>Materials needed to complete script</b>	<ul style="list-style-type: none"> <li>• An object of special meaning or symbolism to the circle facilitator who is usually called the circle keeper.</li> </ul>
<b>Inputs from other scripts</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Outputs from this script</b>	<ul style="list-style-type: none"> <li>• Recorded stories of the participants to use in creating a causal loop</li> </ul>
<b>Team roles required and expertise needed</b>	<ul style="list-style-type: none"> <li>• Circle Keeper</li> <li>• Modeler</li> <li>• Note Taker</li> </ul>
<b>Who is in the room?</b>	<ul style="list-style-type: none"> <li>• Members of the MN-S research team</li> </ul>
<b>Steps</b>	<ol style="list-style-type: none"> <li>1. After brief opening comments by the circle keeper about the purpose of the talking circle, listing of ground rules and asking for additional contributions to the ground rules, the circle keeper says a few things about the talking piece and then passes it to the person on the left, clockwise.</li> <li>2. Only the person with the talking piece can speak. If others jump in with comments, the circle keeper reminds them of the ground rules and re-focuses on the person with the talking piece.</li> <li>3. Participants are not required to speak: this would create an un-safe, pressured tone to the circle. If someone feels unable to speak they can simply pass the talking piece to the next person.</li> </ol>
<b>Evaluation criteria</b>	<ol style="list-style-type: none"> <li>1. All participants will share stories related to topic.</li> </ol>
<b>Author(s)</b>	Amanda LaVallee, 2011
<b>History &amp; Basis for Script</b>	Based on cultural practised of the Author. Also based on guidance from a Metis Elder.
<b>Revisions</b>	--
<b>References</b>	--

## (5) Debriefing: MN-S Research Team

<b>Description</b>	This script is used to organize the Team’s debriefing session after a GMB session.
<b>Context</b>	May be used after each GMB session.
<b>Purpose(s)</b>	<ul style="list-style-type: none"> <li>To provide an environment for the MN-S research team to share thoughts, concerns, and feelings about the GMB session, their roles, and process issues/successes. (To accelerate learning and make improvements)</li> </ul>
<b>Nature of group task</b>	<ul style="list-style-type: none"> <li><b>Evaluative:</b> activity designed to evaluate ‘what’s working’ and ‘what’s not working’ and choose between suggested options and ideas</li> </ul>
<b>Time</b>	Preparation time: None Time required to complete steps in script: 30 minutes, Follow up time: None
<b>Materials needed to complete script</b>	<ul style="list-style-type: none"> <li>Sitting around the broad room table</li> </ul>
<b>Inputs from other scripts</b>	<ul style="list-style-type: none"> <li>Final, detailed version of the Script from GMB session being debriefed</li> </ul>
<b>Outputs from this script</b>	<ul style="list-style-type: none"> <li>List of actions necessary to implement improvements</li> </ul>
<b>Modeling team roles required and expertise needed</b>	<ul style="list-style-type: none"> <li>Debriefers skilled at facilitating group process, culturally sensitive</li> </ul>
<b>Who is in the room?</b>	<ul style="list-style-type: none"> <li>All MN-S research team who participated in session under review</li> </ul>
<b>Steps</b>	<ol style="list-style-type: none"> <li>Assemble the MN-S research team and announce the start of the debriefing session. Everyone sits on a chair in the broad room.</li> <li>Round Robin (Clockwise) style. Questions will be asked by the debriefer – team has the opportunity to share one at a time.</li> <li>Begin with a check-in to see how people are doing. Asking team to provide 2 words to describe how they experienced the process-how they feel. This is important regardless of whether the session went well or badly.</li> <li>Once everyone has shared their 2 words ask the following questions: <ul style="list-style-type: none"> <li>What went well during this session?</li> <li>From your perspective, what would have led to even more value creation for participants?</li> <li>Were there any rough parts for you?</li> <li>What did you learn from this session? (<b>all answer</b>)</li> </ul> </li> </ol>
<b>Evaluation criteria</b>	<ol style="list-style-type: none"> <li>Stronger, more cohesive team after the debrief</li> <li>List of ways to improve the process.</li> </ol>
<b>Author(s)</b>	Timothy Hower ( <a href="mailto:thower@wustl.edu">thower@wustl.edu</a> ) and Peter Hovmand ( <a href="mailto:phovmand@wustl.edu">phovmand@wustl.edu</a> ) , April 6, 2010 Adapted November 24 <sup>th</sup> , 2011 by Amanda LaVallee
<b>History &amp; Basis for Script</b>	Original Script based on current practice of Peter Hovmand.
<b>Revisions</b>	--
<b>References</b>	--

## (6) Causal Loop Diagram

<b>Description</b>	Developing a causal map based on the stories shared during sharing circle
<b>Context</b>	Participants have no knowledge of system dynamics, and there is an interest in quickly illustrated how a focal problem or situation could involve a system of interacting feedback loops
<b>Purpose(s)</b>	<ul style="list-style-type: none"> <li>• Eliciting variables</li> <li>• Eliciting feedback loops</li> </ul>
<b>Nature of group task</b>	<ul style="list-style-type: none"> <li>• <b>Divergent:</b> activity designed to produce an array of different ideas and interpretations</li> </ul>
<b>Time</b>	<p>Preparation time: 3 hrs</p> <p>Time required to complete steps in script: 90-120 minutes</p> <p>Follow up time: 90 minutes, depending on anticipated use of output</p>
<b>Materials needed to complete script</b>	<ul style="list-style-type: none"> <li>• Overhead data projector &amp; screen</li> <li>• Computer running modeling software (e.g., Vensim)</li> <li>• Recorder's materials (could be computer based, or handwritten on large or small pages)</li> </ul>
<b>Inputs from other scripts</b>	<ul style="list-style-type: none"> <li>• Sharing Circle: TB stories and experience</li> </ul>
<b>Outputs from this script</b>	<ul style="list-style-type: none"> <li>• Causal map of reinforcing and balancing feedback loops identify variables and structures related to a focal problem</li> </ul>
<b>Modeling team roles required and expertise needed</b>	<ul style="list-style-type: none"> <li>• Modeler with expertise in system dynamics modeling who can draw diagrams in real time</li> <li>• Facilitator familiar with the situation and language used by participants to discuss the problem, and strong group facilitation skills appropriate to the culture of participations</li> </ul>
<b>Who is in the room?</b>	<ul style="list-style-type: none"> <li>• All members of the MN-S research team</li> </ul>
<b>Steps</b>	<ol style="list-style-type: none"> <li>1. The <i>modeler</i> will be at the front of the room with the data projector.</li> <li>2. The <i>modeler</i> explains that the diagram that will result from this will be available to them, and that we'll use these the next day to develop plans for future action.</li> <li>3. The <i>modeler</i> introduces the connection circles created during the sharing circle.</li> <li>4. The MN-S research team begins to create a combined causal map of all the stories sharing during the sharing circle. As someone suggests something, the <i>modeler</i> draws the link on the model in front of the room. The <i>modeler</i> will try to use the same terms as the participants used.</li> <li>5. Relationships should, as much as possible, be written down with arrows → in causal chains with '+' and '-' signs to indicate the direction of the relationship. A '+' indicates that increasing one leads to an increase in the other, and a decrease in one leads to a decrease in the other. A '-' indicates an opposite effect where increasing one leads to a decrease in the other, and a decrease in one leads to an increase in the other.</li> <li>6. The <i>modeler</i> will interject when the first feedback loop has been formed.</li> </ol>

	7. The process continues there is about 5 minutes left in the exercise, at which point the <i>modeler</i> points out that we've only spent a little time, less than 90 minutes coming up with some of these relationships and already it is looking pretty complicated. However, this is still much simpler than the reality they are trying to manage in practice and research.
<b>Evaluation criteria</b>	<ol style="list-style-type: none"> <li>1. Energized research team</li> <li>2. A causal map with multiple feedback loops.</li> <li>3. Recognizing that there is a feedback system</li> </ol>
<b>Author(s)</b>	<p>Timothy Hower (<a href="mailto:thower@wustl.edu">thower@wustl.edu</a>) and Peter Hovmand (<a href="mailto:phovmand@wustl.edu">phovmand@wustl.edu</a>), April 6, 2010</p> <p>Adapted November 24<sup>th</sup>, 2011 by Amanda LaVallee</p>
<b>History &amp; basis for script</b>	Based on Luna-Reyes et al. (2006)
<b>Revisions</b>	April 6, 2010    Converted and revised to present format
<b>References</b>	<p>Luna-Reyes, L. F., Martinez-Moyano, I. J., Pardo, T. A., Cresswell, A. M., Andersen, D. F., &amp; Richardson, G. P. (2006). Anatomy of a group model-building intervention: Building dynamic theory from case study research. <i>System Dynamics Review</i>, 22(4), 291-320.</p>

**APPENDIX D: WORKSHOP AGENDA**

**Workshop Agenda  
DAY ONE: January 26<sup>th</sup>, 2012**

<b>TIME</b>	<b>ACTIVITY</b>	
8:30am – 9am	Registration & Breakfast	
9am – 9:15am:	Welcome (Prayer & Opening Comments)	
9:15am – 10am:	House Keeping & Introductions	
10am – 10:45am:	Overview of Group Model Building & Importance of TB research	
10:45am – 11am:	Break/Snacks/Refreshments	
11am – 12pm:	Overview for MN-S and their involvement	
12pm – 1pm:	Lunch	
1pm – 2:30pm:	Tuberculosis Stories: Story Telling	<b>AUDIO-RECORDING</b> Participants will be reminded and further consent will be revisited
2:30pm – 2:45pm:	Break/Snacks/Refreshments	
2:45pm – 3:45pm:	Tuberculosis Stories: Story Telling	<b>AUDIO-RECORDING</b>
3:45pm – 4pm	Reflection & Closing Remarks	

**DAY TWO: January 27<sup>th</sup>, 2012**

<b>TIME</b>	<b>ACTIVITY</b>	<b>FACILITATOR</b>
8:30am – 9am	Breakfast	
9am – 9:15am:	Opening Remarks & Reflection	
9:15am – 10:15am:	Tuberculosis Stories: Reviewing Causal Loop Diagram	<b>AUDIO-RECORDING</b> Participants will be reminded and further consent will be revisited
10:15am – 11am	Tuberculosis Stories: Discussion of causal loop	<b>AUDIO-RECORDING</b>
11am – 11:15am	Break/Snacks/Refreshments	
11:15 – 1pm	Story Telling Evaluation of Process/Workshop	<b>AUDIO-RECORDING</b> Participants will be reminded and further consent will be revisited
1pm – 2pm	Lunch – Final Remarks	

## APPENDIX E: LANDSCAPE ADVERTISEMENT

Dear Community Member,

You are invited to take part in a research project titled, “Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: A Group Model Building Project on TB in Saskatchewan Métis Communities.”

This study proposes to bring a tool, called system dynamic modeling, to an exploration of health, wellness, illness, and policy pertaining to tuberculosis (TB) within our Saskatchewan Métis communities. A participatory and community grounded method, called Group Model Building (GMB) will be used to collectively build a holistic understanding of the community’s experience with TB. Community members will exchange their perceptions of a problem like TB and together explore such questions as: what exactly is the problem we face? How did the problem originate? What might be its causes? How can the problem be effectively tackled? The outcome is a system diagram (causal loop diagram) that captures the TB experience on one page. The collective approach to building the diagram can support group learning and transform and refine individual ideas about how TB can become a problem, and more importantly, point to previously unconsidered factors preventing change and promoting health.

Your participation will involve:

- A 2 day Group Model Building workshop on the community social, economic, political, and cultural influences around tuberculosis, health care promotion and prevention. Day One will be 7.5hours – Day Two will be 5.5hours. Food and beverages will be provided. During the workshop we will be creating a causal loop diagram of tuberculosis based on your stories and experiences.
- Evaluation of the effectiveness and usefulness of the Group Model Building process by concluding with a group evaluation through sharing our stories of the experience.

For more information please contact:

**Amanda LaVallee (Student Researcher)**

Community Health & Epidemiology

University of Saskatchewan

Cell Phone: 306-280-5976

Email: [aml082@usask.ca](mailto:aml082@usask.ca)

**Tara Turner (Director of Health) or Cheryl Troupe (Consultant)**

Métis Nation-Saskatchewan

406 Jessop Avenue

Saskatoon, SK S74 2S5

Office: 306-343-8285

Fax: 306-343-0171



## APPENDIX F: RECRUITMENT POSTER

**Métis Nation-Saskatchewan  
&  
University of Saskatchewan**

### **Métis Participants Needed For A Workshop on Tuberculosis**

We are looking for volunteers to take part in a research study focused on  
*Métis Experiences and Stories about Tuberculosis*

As a participant in this study, you would be asked to: take part in a 2 DAY workshop to share individual and/or family stories and experiences with tuberculosis.

Your participation would involve a 2 day workshop  
January 26<sup>th</sup>, 2012: 8:30am-4pm (7.5 hours)  
January 27<sup>th</sup>, 2012: 8:30am-2pm (5.5 hours)

Beverages and Food will be provided at the workshop.

For more information about this study, or to volunteer for this study,  
please contact:

**Amanda LaVallee (Student Researcher)**

University of Saskatchewan  
Cell Phone: 306-280-5976  
Email: [aml082@mail.usask.ca](mailto:aml082@mail.usask.ca)

**Dr. Tara Turner (Director of Health)  
or Cheryl Troupe, M.A. (Health Department)**

Métis Nation-Saskatchewan  
406 Jessop Avenue, Saskatoon, SK S74 2S5  
Office: 306-343-8285  
Fax: 306-343-0171  
Email: [tturner@mn-s.ca](mailto:tturner@mn-s.ca) or [ctroupe@mn-s.ca](mailto:ctroupe@mn-s.ca)

**This study has been reviewed by, and received ethics clearance  
through the Métis Nation-Saskatchewan on April 18<sup>th</sup>, 2011 AND Behavioral Research  
Ethics Board from the University of Saskatchewan on November 7<sup>th</sup> 2011**

## **APPENDIX G: PARTICIPANT INTRODUCTION – INVITATION LETTER**

Dear Community Member,

On January 26<sup>th</sup> and 27<sup>th</sup> 2012 you are invited to take part in a research project titled, “Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: A Group Model Building Project on TB in Saskatchewan Métis Communities.”

Through your individual/family stories and experience with tuberculosis (TB), we will explore Métis health, wellness, illness, and policy. A participatory and community grounded method, called Group Model Building (GMB) will be used to collectively build a holistic understanding of your individual/family stories and experiences of with TB. The outcome is a picture (causal loop diagram) that captures the Métis TB experience on one page.

Your participation will involve:

- A 2 day Group Model Building workshop to share your individual or family stories and experiences with tuberculosis. Day One will be 7.5hours – Day Two will be 5.5hours. Food and beverages will be provided. During the workshop we will be creating a causal loop diagram of tuberculosis based on your stories and experiences.
- Evaluation of the effectiveness and usefulness of the Group model building process by concluding with a group evaluation through sharing our stories of the experience.

For more information please contact:

**Amanda LaVallee (Student Researcher)**

Community Health & Epidemiology  
University of Saskatchewan  
Cell Phone: 306-280-5976  
Email: [aml082@mail.usask.ca](mailto:aml082@mail.usask.ca)

**Dr. Tara Turner (Director of Health) or Cheryl Troupe, M.A. (Health Department)**

Métis Nation-Saskatchewan  
406 Jessop Avenue  
Saskatoon, SK S74 2S5  
Office: 306-343-8285  
Fax: 306-343-0171  
Email: [tturner@mn-s.ca](mailto:tturner@mn-s.ca) or [ctroupe@mn-s.ca](mailto:ctroupe@mn-s.ca)

## APPENDIX H: PARTICIPANT CONSENT FORM

You are invited to participate in a research project entitled “*Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: A Group Model Building Project on TB in Saskatchewan Métis Communities.*”

### **Researcher(s):**

**Amanda LaVallee**, Department of Community Health and Epidemiology, University of Saskatchewan, Tel (306) 966-2194, Fax (306) 966-7920,

**Dr. Sylvia Abonyi**, (Supervisor), Department of Community Health and Epidemiology, University of Saskatchewan, Tel (306) 966-2194, Fax (306) 966-7920

**Dr. Tara Turner**, (Research Partner) Director of Health Métis Nation-Saskatchewan, 406 Jessop Avenue, Saskatoon SK, Office: 306-343-8391 Fax: 306-343-0171

**Cheryl Troupe**, MA (Research Partner) Health Department Métis Nation-Saskatchewan, 406 Jessop Avenue, Saskatoon SK, Office: 306-343-8391 Fax: 306-343-0171

**Karen Yee**, MSc. MPH (Research Collaborator/Public Health Researcher)

**Irini AbdelMallek**, M.B., Ch.B., M.D., MPH (Research Collaborator– MD/Public Health Researcher)

**Overview:** The purpose of this research study is to create new knowledge in the Métis community about the determinants of TB by combining western and Indigenous ways of viewing an issue, as well as western and Indigenous ways of exploring the issue. It is hoped that the collaboratively created new knowledge will inform the development of more effective programs, policy, and practice aimed at the reduction of TB transmission.

**Methods:** The GMB workshop will be a 2 day facilitated group discussion with 6–12 Métis participants willing to share their personal and/or family experiences and stories of TB. The first day of the workshop will be approximately 7.5 hours and Day Two; 5.5 hours. Food and beverages will be provided, however we are not able to reimburse costs for transportation or accommodation. With your permission, the GMB workshop will be audio recorded. This will allow the MN-S Research Team to honour the stories being told, as well as create a comprehensive and holistic understanding of TB and Métis peoples thus, formed with words and a diagram.

The GMB workshop will include a facilitator (a member of the MN-S Research Team) guiding the participants in a group discussion based on the participants personal and/or family experiences and stories of TB. At the same time, another member of the MN-S Research Team will be in the

role of the ‘modeler’ and will be drawing a diagram based on the participants’ stories and conversations; representing a visual picture of the interconnected social determinants of health that have influenced TB.

Day Two of the GMB workshop will include the 6-12 participants that attended Day One of the GMB workshop. The MN-S Research Team will present the Causal loop diagram/structure created in Day one on a projection screen for all participants to view. The facilitator will explain the different areas of the structure and ask if they represent the participants’ stories and experiences of TB. The MN-S Research Team will discuss at length how to understand and use the causal loop structure with the participants. In addition, the facilitator will guide discussions around implementing policy interventions within the varying areas of the causal loop diagram. Once again, the MN-S Research Team will discuss potential feedback of future unintended and intended positive and negative consequences.

Day Two of the GMB workshop, after 1-2 hours of time allotted for the causal loop discussion and interventions, the GMB workshop facilitator (a member of MN-S Research Team) will begin the storytelling evaluation of the GMB workshop. The designated GMB facilitator will be allotted 1-2 hours to guide the process. This storytelling evaluation process involves engaging the participants in storytelling and story listening (a form of interview) based on their understanding, experience, and perceptions of the GMB method used during the workshop. To encourage storytelling and story listening, a list of tentative questions will be provided to each participant in advance. The questions will be open ended to allow the participants and workshop facilitator (member of MN-S Research Team) to honour storytelling and story listening; the reciprocated exchange of information.

With your permission, the participant storytelling evaluation will be audio taped. The audio taped storytelling will be transcribed. Each participant will only receive a copy of their shared story. These transcriptions along with the causal structure will be given to the participant/individual who contributed that story to give consent for its accuracy and use in the final written dissertation.

Only the MN-S Research Team and a transcriptionist will see and read the story’s that you share. The MN-S Research Team will see, hear, and read the stories, because they will be present during the workshop. A transcriptionist will be hired to transcribe the all audio-recorded stories from the GMB workshop and evaluation. All individuals will sign an anonymity and confidentiality form.

Photographs may be taken throughout the GMB workshop. The student researcher may take photographs of the causal loop exercise, to help capture the context and aid as a narrative; allowing for later description and analysis not possible in real time. Moreover, the photographs will provide a visual context of the causal loop diagramming during the GMB workshop. Minimal photographs may be used in the written dissertation. The student researcher will seek approval of all participants and MN-S Research Team prior to taking the photographs. Each participant and MN-S Research

Team has the right to be excluded in the photographs; photographs will not be taken of those individuals.

**Risks and Benefits:** There are no known risks associated with this study. The GMB workshop questions and storytelling evaluation questions are not anticipated to cause undue physical or emotional stress. There are no direct benefits to you to participating in this study. The results will be shared with the Métis Nation-Saskatchewan (MN-S). The information you share may be used to inform future MN-S health education, promotion, and prevention related tuberculosis.

**Right of Participation and Withdrawal:** Your participation is voluntary, and you can answer only those questions that you are comfortable with. There is no guarantee that you will personally benefit from your involvement. The information that is shared will be held in strict confidence and discussed only with the research team. Please be advised that you may change your answers or withdraw from the research project for any reason, without penalty of any sort. However, there will be a point in the project at which you will no longer be able to withdraw. You will have 2 months from the date of the GMB workshop (data collection) to choose to withdraw from the project. If you choose to withdraw from the research project the student researcher will confirm with you which parts (or all) of the data that you have contributed to be destroyed (at your request). You will be invited to give additional feedback, make corrections or offer different explanation regarding the researcher's analysis of the data gained by the GMB workshop and evaluation.

**Confidentiality and Anonymity:** Data collected during the GMB workshop and storytelling/listening evaluation will be kept confidential. Any identifying information such as your name, the names of relatives, and specific references to homes or people will be altered or deleted and not included in the final thesis. A self-selected pseudonym will be assigned to direct observations and quotes and your name will not appear in any report, presentation or publication about this study, unless you choose to be identified. It is possible that you may be identifiable to other people on the basis of participating in the study and by what you have said. Therefore, you are advised to consider this as you participate in the study. The consent forms will be stored separately from the GMB workshop digital recordings and the storytelling/listening evaluation digital recordings and transcripts, so that it will not be possible to associate a name with any given response. Should the researcher wish to use one or more of your direct quotes in her thesis, final report, or presentation, she will contact you for approval.

The researcher will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group, and be aware that others may not respect your confidentiality.

**Storage of Data:** All materials pertaining to the participants' GMB contributions and storytelling/listening evaluation digital recording and transcripts (hard copies of the transcripts and electronic files on disk) will be stored in the office of Dr. Sylvia Abonyi, in a locked cabinet, and on password protected computers. All materials will be destroyed 5 years after the end of this project.

**Dissemination:** The knowledge gained from this study will be shared, in the form of a final report with the MN-S through a presentation to organization. The report will be made available to Métis community members and the general public. The study will also be used to inform the researcher's thesis work in partial fulfillment of a PhD program at the University of Saskatchewan, and include a paper and/or poster presentation at an appropriate academic conference or other venue, as well as publications in relevant journals (e.g., Qualitative Health Research, Social Science & Medicine, and Journal of Aboriginal Health).

If you have any questions concerning the research project, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided if you have other questions. This research project has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board on \*\*. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office (966-2084). Out of town participants may call collect.

**Consent to Participate:**

*I have read and understood the description provided; I have had an opportunity to ask questions and my/our questions have been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time prior to the completion of the researcher's thesis. A copy of this Consent Form has been given to me for my records.*

- 
- 1) *I have read and understood the contents of this consent form and agree to participate in the GMB workshop:* \_\_\_\_\_ Yes    \_\_\_\_\_ No
  - 2) *I have read and understood the contents of this consent form and agree to participate in the storytelling evaluation:* \_\_\_\_\_ Yes    \_\_\_\_\_ No
  - 3) *I have received a copy of the consent form for my files:* \_\_\_\_\_ Yes    \_\_\_\_\_ No
  - 4) *I agree to be audio taped for the GMB workshop:* \_\_\_\_\_ Yes    \_\_\_\_\_ No
  - 5) *I agree to be audio taped for the and storytelling evaluation* \_\_\_\_\_ Yes    \_\_\_\_\_ No
  - 6) *I would like to review transcripts of my contributions to the GMB prior to their use in this study:*  
\_\_\_\_\_Yes \_\_\_\_\_No
  - 7) *I would like to review transcripts of my contributions to the storytelling evaluation prior to their use in this study:* \_\_\_\_\_Yes \_\_\_\_\_No
-

*Participant Name (Print)*

*Participant Signature*

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*Researcher Signature*

*Date*

Participant contact mailing and/or e-mail address (for the purposes of transcript review only):

**APPENDIX I: TRANSCRIPT RELEASE**

The researcher (Amanda LaVallee) will arrange for the direct delivery of the transcript to each participant for their review. Participants will be asked to sign this form after the transcript has been reviewed and when the researcher returns to pick it up. Participants will after

**Researcher(s):**

**Amanda LaVallee**, Department of Community Health and Epidemiology, University of Saskatchewan, Tel (306) 280-5976, Fax (306) 966-7920, Email: [aml082@mail.usask.ca](mailto:aml082@mail.usask.ca)

**Dr. Sylvia Abonyi**, (Supervisor), Department of Community Health and Epidemiology, University of Saskatchewan, Tel (306) 966-2194, Fax (306) 966-7920

**Dr. Tara Turner**, (Research Partner) Director of Health Métis Nation-Saskatchewan, 406 Jessop Avenue, Saskatoon SK, Office: 306-343-8391 Fax: 306-343-0171, Email: [tturner@mn-s.ca](mailto:tturner@mn-s.ca)

**Cheryl Troupe**, MA (Research Partner) Health Department Métis Nation-Saskatchewan, 406 Jessop Avenue, Saskatoon SK, Office: 306-343-8391 Fax: 306-343-0171, Email: [ctroupe@mn-s.ca](mailto:ctroupe@mn-s.ca)

**Karen Yee**, MSc. MPH (Research Collaborator/Public Health Researcher)

**Irini AbdelMallek**, M.B., Ch.B., M.D., MPH (Research Collaborator– MD/Public Health Researcher)

I, \_\_\_\_\_, have been offered the opportunity to review the complete transcript of my GMB workshop and storytelling evaluation as part of the study entitled *“Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: A Group Model Building Project on TB in Saskatchewan Métis Communities.”*

I acknowledge that the transcript accurately reflects what I said in during the GMB workshop with the researcher (Amanda LaVallee) and I have had the opportunity to make any changes on the transcript. \_\_\_\_\_ *Yes* \_\_\_\_\_ *No*

I hereby authorize the release of this transcript to the researcher on this project to be used in the manner described in the consent form. I have received a copy of this Data/Transcript Release Form for my own records. \_\_\_\_\_ *Yes* \_\_\_\_\_ *No*

I consent that direct quotes of what I have said, may be used in publications and/or presentations to the public: \_\_\_\_\_ *Yes* \_\_\_\_\_ *No*

I would like to use the following pseudonym in all direct quotes that may be used in publications or presentations: \_\_\_\_\_

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I acknowledge that the transcript accurately reflects what I said in during the storytelling evaluation with the researcher (Amanda LaVallee) and I have had the opportunity to make any changes on the transcript. \_\_\_\_\_ *Yes* \_\_\_\_\_ *No*

I hereby authorize the release of this transcript to the researcher on this project to be used in the manner described in the consent form. I have received a copy of this Data/Transcript Release Form for my own records. \_\_\_\_\_ *Yes* \_\_\_\_\_ *No*

I consent that direct quotes of what I have said, may be used in publications and/or presentations to the public: \_\_\_\_\_ *Yes* \_\_\_\_\_ *No*

I would like to use the following pseudonym in all direct quotes that may be used in publications or presentations: \_\_\_\_\_

Please return by \_\_\_\_\_

You will have 2 weeks to approve and/or make corrections, sign and return the transcript release form and transcript (only if changes are made) to the student researcher. After the 2 week period the student researcher will assume the original transcript is acceptable for use.

If I have any questions or concerns I may contact the researcher at the phone number and e-mail addresses above.

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Participant Name and Signature \_\_\_\_\_ Date \_\_\_\_\_

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Researcher \_\_\_\_\_ Date \_\_\_\_\_

## APPENDIX J: PHOTOGRAPH RELEASE FORM

*The researcher will carefully explain each of the options below for the release of photographs prior to the signing of the form.*

### Researcher(s):

**Amanda LaVallee**, Department of Community Health and Epidemiology, University of Saskatchewan, Tel (306) 966-2194, Fax (306) 966-7920,

**Dr. Sylvia Abonyi** (Supervisor), Department of Community Health and Epidemiology, University of Saskatchewan, Tel (306) 966-2194, Fax (306) 966-7920

**Dr. Tara Turner** (Research Partner) Director of Health Métis Nation-Saskatchewan, 406 Jessop Avenue, Saskatoon SK, Office: 306-343-8391 Fax: 306-343-0171

**Cheryl Troupe**, MA (Research Partner) Health Department Métis Nation-Saskatchewan, 406 Jessop Avenue, Saskatoon SK, Office: 306-343-8391 Fax: 306-343-0171

**Karen Yee**, MSc. MPH (Research Collaborator/Public Health Researcher)

**Irini AbdelMallek** (also known as Irini Benyamin), M.B., Ch.B., M.D., MPH (Research Collaborator– MD/Public Health Researcher)

I \_\_\_\_\_, release the photographs with me in them taken during the study entitled, *“Intersecting Knowledge Systems to Collaboratively Create New Perspectives on an Old Issue: A Group Model Building Project on TB in Saskatchewan Métis Communities.”*

I agree to the following release of the photographs with me in them:

\_\_\_\_\_ Complete release - For analysis, educational and/or academic purposes; inclusion in all reports and final dissertation.

\_\_\_\_\_ I do not release photographs of **ME** in them.

I hereby authorize the release of the photographs I am in to be used in the manner indicated above. I have received a copy of this Photograph release form for my own records.

If I have any questions or concerns I may contact the researchers at the phone numbers and e-mail addresses above.

\_\_\_\_\_  
Participant Name and Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Researcher

\_\_\_\_\_  
Date

## **APPENDIX K: PARTICIPANT EVALUATION QUESTIONS**

- Was the workshop group setting comfortable for you to share your stories? Why or Why not?
- Did you feel your voice/story was heard? Please explain.
- Did you feel your story was accurately reflected in the causal loop? Can you please explain.
- Did you think this was a good way to demonstrate TB in our community? Why or Why not?
- Did you get a better understanding of your individual, family, and community experience of TB? Why or Why not?
- Did you find the GMB method respectful of Métis ways of knowing, being, and doing? How so? Why or Why not?
- Did the process help you to visualize the problem? How so? Can you explain?
- Do you feel it was an open atmosphere for you to share? How so?
- Did you feel included in the process? Can you provide some examples?
- Does the GMB method need any improvements? What could be done differently? If you were to do this again what would you like to see differently? What worked and what didn't?

**APPENDIX L: DECLARATION OF ANONYMITY AND CONFIDENTIALITY**

Any information and all records gathered during the course of research is privileged information – whether these concern a single story shared by a participant, or include observations about an individual. The same privilege attaches to **all** records or documents associated with individuals participating in this research.

I, \_\_\_\_\_ (PLEASE PRINT), affirm that I will uphold the general unconditional guarantee of participant anonymity and confidentiality.

I also affirm that I will uphold personally, and in cooperation with my research colleagues, the following additional guarantees:

- No record will be reproduced in any manner, in full or in part, having potential personal identification capabilities either directly or indirectly;
- No record will be reviewed – in any way, including casual reading – by anyone without express authorization;
- No directly or indirectly personally identifying information will at any time be disclosed to anyone;
- No records, or reproductions of records, will be used, without the specific approval of the student researcher.

\_\_\_\_\_  
YOUR SIGNATURE

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
YOUR NAME, PRINTED

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
DATE // MONTH // YEAR

## **APPENDIX M: QUESTIONS FOR PARTICIPANTS**

### **Questions for Participants Storytelling Story Listening Evaluation**

- Did the workshop help feel comfortable in the group setting to share your stories?
- Did you feel your voice/story was heard?
- Did you feel your story was accurately reflected in the causal loop?
- Did you think this was a good way to demonstrate TB in our community?
- Did you get a better understanding of your individual, family, community experience of TB?
- Did you find the GMB method respectful of Metis ways of knowing, being, and doing?
- Did the process help you to visualize the problem?
- Was it an open atmosphere for you to share?
- Did you feel included in the process?
- Does the GMB method need any adjustments? What could be done differently? If you were to do this again what would you like to see differently or what worked?

## **APPENDIX N: MN-S RESEARCH TEAM EVALUATION QUESTIONS**

These questions may be used to prompt the storytelling evaluation process.

### **PLANNING QUESTIONS:**

As a team, do you think we were well prepared for the workshop?  
Do you think the team roles were clearly defined?  
Did you understand your responsibilities during the workshop?  
Did you feel we were well prepared for the workshop?

### **TEAMWORK QUESTIONS:**

Did you have the opportunity to provide input on the design of the workshop?  
Do you think the MN-S Research Team communicated well with each other during the workshop?  
Do you think the MN-S Research Team followed their assigned roles?  
Do you think the MN-S Research Team worked well as a team?

### **PERFORMANCE QUESTIONS:**

Do you think we were clear on the purpose and goal of the workshop?  
Did we follow the activities outlined in the script(s)?  
Did the MN-S Research Team successfully include every participant in the discussion?  
Do you think we achieved our intended goal(s) of the workshop?

### **OUR OBSERVATION OF THE PARTICIPANTS:**

Did the participants make decisions about the model?  
Did the participants spend more time speaking than the MN-S Research Team?  
Do you think the participation was equal among the participants?  
Do you think every participant contributed to the discussion?  
Did participants ask questions?

### **MÉTIS SPECIFIC QUESTIONS:**

Did the GMB workshop provide you opportunities for story telling and story listening?  
From your perspective as a Métis person, did the GMB workshop highlight TB in an good way?  
Do you think the GMB method is appropriate for Métis communities in learning and understanding about TB?  
Did you find the GMB workshop respectful of Métis ways of knowing, being, and doing?  
Did the GMB workshop provide opportunities for building relationships?  
As part of the MN-S Research Team, what did you think of the process?

### **GMB QUESTIONS:**

Did the GMB workshop create a shared vision of the problem?  
Did the GMB workshop help to improve communication between participants?  
Did the causal loop structure provide a holistic understanding of TB?  
Did you feel the participants story were accurately reflected in the causal loop?  
Did the causal loop structure help to visualize the problem?  
Do you think the GMB workshop an open atmosphere for participants to share?

**WHAT WAS GOOD? WHAT WAS BAD?**

Does the GMB method need any adjustments? What could be done differently? If you were to do this again what would you like to see differently or what worked?