An Exploration of Knowledge Translation in Aboriginal Health

by

Elizabeth Estey
B.A., University of Victoria, 2006

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ABSTRACT

Continued documentation of the disproportionate burden of ill health faced by Aboriginal Peoples in Canada raises questions about the gap between what is known and what action is being taken to improve Aboriginal health in Canada. In order to explore this puzzle of knowledge translation (KT), a conceptual framework was developed by synthesizing the KT literature with the Aboriginal health research literature. Using this framework as a guide, this study explored the idea of KT within one Aboriginal health research context – the Network Environments for Aboriginal Research British Columbia (NEARBC). Concepts, ideas, and patterns drawn from the systematic thematic analysis of semi-structured qualitative interviews highlight the complexity of Aboriginal KT and the challenges that lie ahead. The lessons learned from these challenges are reviewed and opportunities for KT to help transform the discourse and practice of Aboriginal health research and policy in Canada discussed.

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CHAPTER ONE: INTRODUCTION

> Although Canada as a whole ranks at the forefront among nations according to the criteria of the United Nations Human Development Index, Canadian Aboriginal people living on rural reserves rank 68th, while Aboriginal people living elsewhere rank 36th (Webster, 2006, p. 275).

As Webster (2006) states above - and researchers, policy-makers, and Aboriginal Peoples all substantiate - Aboriginal Peoples are disproportionately burdened with ill health in Canada. Knowledge and documentation of the disparate health conditions of Aboriginal Peoples draws one to question: "Why is evidence of ill health in Aboriginal communities not translating into improved health outcomes?" and "How can research be employed to improve the health and well-being of Aboriginal Peoples in Canada?" These questions are linked to a growing necessity to understand the concept of "knowledge translation," which has been generally defined as the process(es) through which knowledge is turned into strategic action.

1.1 The Need for Research

Interest in the concept of knowledge translation is not new; in fact, researchers have long pondered the connection between their work and its impact on policy and/or practice (Wingens, 1990). More recently, however, this interest has facilitated the development of an academic field of study. The infancy and continued evolution of the study of knowledge translation creates both incentives and barriers for KT research. On the one hand, it provides researchers with the opportunity to explore a new and emerging area and, therefore, make a mark on the evolving KT landscape. On the other, researchers are challenged to break new ground: there is "yet no agreed conceptual framework and a lack of a learning platform to develop and spread good practices (Pablo-Mendez and

Shademani, 2006, p. 85). As a result, the question, "what is knowledge translation?", remains at the forefront of the KT literature. This is ironic, considering that the study of knowledge translation seeks to describe how knowledge can be better (and more widely) exposed and understood. Nevertheless, considerable progress has been made in the mainstream health research and policy literature as a result of engagement with this question. Comparatively, little time has been invested in examining "what is knowledge translation in Aboriginal health?"

The lack of literature on knowledge translation in the specific area of Aboriginal health and the need to define knowledge translation demonstrates how and why research on "Aboriginal KT' – the term used by the author to denote knowledge translation in an Aboriginal health context – will be greatly beneficial. As such, this study's exploration of knowledge translation in the context of one Aboriginal health research network – the Network Environments for Aboriginal Research British Columbia (NEARBC) – will fill a gap in current understandings of the discourse and practice of KT in Aboriginal health contexts. While this is reason enough to study Aboriginal KT, the disproportionate burden of ill health experienced by Aboriginal populations in relation to the general population of Canada – documented in the academic (Adelson, 2005; Waldram, Herring, & Young, 2007) and grey (Romanow, 2002; INAC, 1996) literature – provides an even more compelling reason. For, this literature highlights the existence of a gap between what we about Aboriginal Peoples' health and what action is being taken to improve Aboriginal health in Canada. Knowledge translation, which examines how to reduce the

"know-do gap" (WHO, 2006), has the potential to greatly influence and help improve the health and well-being of Aboriginal populations in Canada.

While this project will explore KT through an "Aboriginal lens", it does not claim to incorporate, reflect, or account for the diversity of Aboriginal Peoples' perspectives, needs, and/or beliefs with regards to KT. Instead, this study hopes to emphasize that KT requires specific attention in an Aboriginal health research context. In doing this, it will draw from and build on mainstream KT discussions, its examination of Aboriginal KT will help bring new insights and perspectives to the current KT discourse, which is dominated by ambiguity and a lack of clarity about the meaning and practice of KT.

1.2 Thesis Outline

This thesis is structured by six main chapters: a review of the literature (chapter two); an examination of the context of Aboriginal health (chapter three); a description and explanation of the study design and methodology (chapter four); a presentation of the findings (chapter five); a discussion of the findings as they relate to the broader KT discourse (chapter six); and a conclusion (chapter seven). The way in which these chapters fit together and their purpose with regards to this thesis is provided below to help prepare the reader to engage with the content and structure of the thesis.

This thesis' exploration of the idea of Aboriginal knowledge translation is grounded by chapter two's review and synthesis of the mainstream KT literature. This extensive

review of the literature outlines the basic theories, understandings, and terms that dominate KT discussions today. It also provides the reader with confirmation of the need to explore the concept of knowledge translation in Aboriginal health. The contextualization of KT discussions in an Aboriginal health context is discussed in chapter three. To do this, the literature that discusses Aboriginal knowledge translation, both explicitly and implicitly, is explored and discussed.

In order to build on this theoretical framework and engage in an in-depth exploration of KT within the context of one Aboriginal health research network, this study was designed as a single-case exploratory case study. In addition to providing an explanation for this research approach and the selection of NEARBC as a case, the appropriateness of using qualitative research methods to collect (semi-structured interviews) and analyze (thematic analysis) the data is explained in chapter four. The presentation of concepts, ideas, and patterns drawn from the thematic analysis in chapter five demonstrates the complexity of Aboriginal KT. In breaking down the rich data into four thematic categories – (1) the definitional debate, (2) Aboriginal KT, (3) doing KT, and (4) KT roles – some key points and issues about KT became evident. Chapter six's relation of these themes to the literature flesh out the essence of the Aboriginal KT debate and outline six challenges for the future. The conclusion of this thesis picks up from the discussion by taking the view that where there are challenges, there are also great opportunities, avenues for change, and great potential for learning. It is here that directions for the future are suggested.

CHAPTER TWO: LITERATURE REVIEW

The connection between academic research and practice has long been a topic of interest in the social sciences, including political science. One reason for this is that it is believed that the development of policies and programs in the public sphere can greatly benefit from the knowledge gained through research:

> Research helps to clarify the facts surrounding policy issues and provides policy-makers with new conceptual models that can help frame and re-frame policy debates. Research identifies potential solutions to policy problems by identifying programs and policies that are effective, and research is also used to support or to challenge the policy status quo (Pyra, 2003, p. 3).

While research is thought to have the potential to benefit policy and practice,[1] "there is agreement in the literature that the knowledge generated by research is vastly underutilized in policy decision-making at all levels" (Pyra, 2003, p. 3). Underlying this phenomenon is the argument that academic research has gradually become divorced from 'real-world' issues[2] (Marginson & Considine, 2000). As a result of these arguments and others, researchers have begun to take greater interest in how their research ideas could be better used by policy-makers and society in general (Wingens, 1990; Estabrooks, Thompson, Lovely, & Hofmeyer, 2006). While not always discussed in the literature, these investigations require a discussion of who is, or should be, responsible for facilitating the translation of research into policy.

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[1] The terms policy and practice are used here to denote the ways that research can be and is used. In this sense, practice can be thought to refer to the actions and behaviours of individuals, organizations, and institutions, whereas policies are the rules, guidelines, and/or laws that govern the practice environment. These distinctions, however, are rough and have not been adequately imagined. It will be important to further develop these concepts when extending the exploration of Aboriginal KT discussed in this thesis.

[2] Such an argument is also implicit in the discussions of neo-liberals and advocates of the new public management, which examine the importance of research having extrinsic social, economic, and policy benefits

The focus of policy studies on use of research is evident in a number of its sub-fields. The environmental policy literature offers an illustrative example, as it is comprised of a series of sub-literatures that address questions about whether, and under what conditions, scientific findings are transformed into policy change (Andresen, Skodvin, Underdal, & Wettestad, 2000**;** Bocking, 2004; Harrison & Bryner).[3] Like the field of environmental policy, interest in the "know-do gap" (WHO, 2006) – "the gap between what we know and what we put to effective use" (Glaser & Marks, 1966, p.1) – has become a key concern in the health research and policy literature (Backer, 2000). This is concerning because the existence of a 'know-do gap' has the potential to be detrimental to the health and well-being of populations (Davis et al., 2003). The focus of the connection between research and policy in health contexts has led to the creation of a new 'buzz word' (CMG, 2007a) – "knowledge translation (KT)." Increased attention and interest in this topic is evidenced by an increase in relevant publications; from fewer than 100 articles in 1990 to several thousands by February 2006 (Cordeiro, Kilgour, Liman, & Jarvis-Selinger, 2007, p.9).

Because of a lack of literature explicitly devoted to the topic of Aboriginal KT, this thesis' conceptual examination of the idea of knowledge translation in Aboriginal health will begin with a review of the mainstream health research and policy literature dedicated to KT. The limited literature on the specific topic of Aboriginal KT will be also be

[3] Some examples of these large sub-literatures include focus on: the idea of policy learning (Haas, 2000); the role of ideas, relative to the role of power and interests, in policy processes (Hoberg, 1996; Lertzman, Rayner, & Wilson, 1996; Haas, 2004); and, finally, the role of policy entrepreneurs and epistemic communities, or 'experts', in influencing and facilitating the promotion of policy ideas and the impact of science on policy (Haas, 1992; Mintrom, 1997).

reviewed in this chapter. While setting these parameters is necessary to ensure that the literature review is of a manageable size and focuses on the topic of concern for this study, this brief discussion is intended to situate this thesis' analysis within the broader political debate.

2.1 The Struggle to Define Knowledge Translation

In order to begin to engage with the question "what is knowledge translation in Aboriginal health?" this chapter will review how the question "what is knowledge translation?" is addressed in the mainstream health research and policy literature. As will be shown in this section, however, the answer to this question is not clear. For, while knowledge translation is generally thought to refer to the processes of reviewing, assessing, and using research in health practice, definitions are diverse (Sudsawad, 2007): "Knowledge translation in the western sphere of health research has been described in a number of different ways by various authors" (IPHRC, 2005, p. 2). Further, knowledge translation is one of many terms used in the health research and policy literature to describe the process(es) through which knowledge is transformed into strategic action. In fact, a study by Graham, Logan, Harrison, Straus, Tetroe, Caswell, & Robinson (2006) identified a total of 33 terms used by applied health research organizations, including: knowledge transfer, knowledge exchange, knowledge mobilization, research utilization, and knowledge brokering (Graham, 2007).

Not surprisingly, then, the majority of the literature debates the appropriateness of these various terms and their definitions. Mimicking this approach, this section will review three of the most commonly used terms in the health literature in Canada: knowledge transfer, knowledge exchange, and knowledge translation. It is important to note that due to a lack of consensus about the meaning and definition of each of these terms, one term can be defined in many different ways. In order to ensure clarity, the discussions of these terms in the sub-sections below will focus on the dominant definition and explanation of the term used in the literature. It is also important to note here that both knowledge transfer and knowledge translation use the acronym KT. Similarly, the label of knowledge translation or KT is often used to denote general discussions of the relationship between research, policy, and practice; for instance, through the phrases "the KT debate" or "the idea of knowledge translation." While these multiple usages of KT provide a common means to discuss a similar idea, they can also obscure differences between the two conceptualizations and the meanings attached to the different terms. The result is that misunderstanding and assumptions likely underline much of the current discussions of KT today. The division of this section by term is intended to help expose some of these assumptions and avoid confusion with the multiple terms and acronyms.

2.1.1 Knowledge Transfer: Moving Research into Practice

"Knowledge transfer" is thought to be one of the first terms used by academics interested in making their work more useful to society (Wingens, 1990). In the literature today, knowledge transfer is defined as the process of "transferring good ideas, research results

and skills between universities, other research organizations, businesses and the wider community to enable innovative new products and services to be developed" (DBERR, 2007). Because the purpose of knowledge transfer is to push knowledge from the research community to potential end-users of the research, knoweldge transfer is conceptualized as a one-way process that often occurs at the end of the research process (Landry, Amara, & Lamari, 2001). While not extensively discussed in the literature, the desire for economic gain can be thought to lie beneath the goals of 'transferring knowledge.' The connection between research transfer and monetary purposes is highlighted by the "'bench-to-bedside' enterprise of harnessing knowledge from basic sciences to produce new drugs, devices, and treatment options for patients" (Woolf, 2008, p. 211). From this perspective, the goal of health research is to develop new treatments "that can be used clinically or commercially ('brought to market')" (Woolf, 2008, p. 211). This is further seen in the marrying of knowledge transfer approaches with those of technology transfer and commercialization (Gopalakrishna & Santoro, 2004).

Monetarily driven or not, the purpose of knowledge transfer is to encourage greater utilization of research. And while the above discussion highlights that a sub-set of this discussion is focussed on the use of research for commercial reasons, a large sub-set of the literature examines the use of research by policy-makers. While "numerous theories [have been] proposed over the years to explain why knowledge is underutilized in policy decision-making" (Pyra, 2003, p. 3), knowledge transfer is based on the tenets of the "two communities' theory" (Dunn, 1983). As a conceptual model, the two communities'

theory explains how cultural differences between researchers' and policy-makers hinders the use of knowledge and the transmission of knowledge between these two groups (van Kammen, de Savigny, & Sewankambo, 2006): the distinctiveness of researchers' and policy-makers' professional cultures and communication practices, as well as the objectives, resources, and timelines to which they must respond are considered to be the key cultural differences (Pyra, 2003). Lack of understanding of each other's context (Pyra, 2003) and inherent tensions between the theoretical perspectives governing each group are also thought to exaggerate the divide between researchers and policy-makers: "Science is focussed on *what we do not know.* Social policy and delivery of health and human services are focussed on *what we should do"* (Shonkoff, 2000, p. 182, *emphasis* in original).

The perception of a divide between these two worlds is why it is argued that:

> Initiatives are needed to facilitate interaction between researchers and policy-makers, to foster greater use of research findings and evidence in policy-making, and to narrow the know-do gap (van Kammen, de Savigny, & Sewankambo, 2006, p. 608).

In an effort to do this, the knowledge transfer approach focuses on the dissemination of research results. This is often enabled through the use of academic venues, such as publication in peer-reviewed journals, presentations at scholarly conferences, as well as more practical applications, such as the creation of handbooks, pamphlets, and newsletters (Grunfeld et al., 2004). Because knowledge transfer initiatives place great emphasis on dissemination, the label of "end-of-grant knowledge translation (KT)" has also been used (Graham, 2007; Gold, 2006). The commonality of viewing KT as

something that occurs at the end of the research project is not surprising considering that the 'end-of-grant KT' approach has been the foundation of dissemination efforts required by funding agencies and institutions. In this context, researchers are often required to indicate a plan to disseminate their results through publications and other academic venues.

The merits of the end-of-grant KT approach, however, have been extensively questioned. As explained by the Cochrane Collaboration on their website,

> No one can keep up to date with the relevant evidence in their field of interest. The major bibliographic databases cover less than half the world's literature and are biased towards English-language publications. Of the evidence available in the major databases, only a fraction can be found by the average search. Textbooks, editorials and reviews, which have not been prepared systematically, may be unreliable. Much evidence is unpublished, but unpublished evidence may be important. More easily accessible research reports tend to exaggerate the benefits of interventions (Cochrane Collaboration, 2007a).

In an effort to address these concerns, academic models have been developed to help researchers ensure that their research is effectively transferred to potential users of the research. Four models are discussed below.

The 'institutional dissemination model,' described by Huberman and Thurler (1991) explains that knowledge transfer is "based on two determinants: the adaptation of the research products to meet the needs of the users and the dissemination efforts" (Landry, Amara, & Lamari, 2001, p. 400). Similarly, Kitson, Harvey, and McCormack (1998) posit "that three key elements must be assessed [when making evidence-based decisions]: the level and nature of the evidence, the context, and facilitation of the process" (Graham

and Logan, 2004, p. 92). Grunfeld et al. (2004) suggest assessing four key dimensions of KT: "source (how credible the source of information is), content (the degree to which the innovation is superior to current practices and feasible to implement), medium (the format in which knowledge is disseminated) and user preferences" (IPHRC, 2005). Lavis, Robertson, Woodside, McLeod, and Abelson (2003) approach this in a different way by suggesting that researchers use a set of questions to engage in KT. Such questions include: (1) What should be transferred to decision makers?; (2) To whom is the research directed?; (3) By whom should research knowledge be transferred?; (4) How should research knowledge be transferred?; and, (5) With what effect should research knowledge be transferred? These models, thus, enable researchers to tailor their dissemination activities according to how they want their research to be used and to whom they want to transfer their results (Pyra, 2003; Crosswaite & Curtice, 1994; Cordeiro, Kilgour, Liman, & Jarvis-Selinger, 2007).

While discussions of knowledge transfer largely focus on the use of research by policy makers and the relationships between these 'two communities,' the transfer of research into practice has received considerable attention in health care settings. The idea of "evidence-based medicine" is a notable example of the history of a conceptualization of research utilization in this context. As defined in the literature, "evidence-based medicine is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients." (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). As evidence-based policy is often considered to be an extension of

the idea of EBM (CHSRF, 2000), it can be defined as the use of evidence to identify programs and practices relevant to key policy outcomes (CHSRF, 2000). The common principle driving evidence-based approaches is that the practice environment should be informed and guided by evidence. When discussing evidence-based approaches, it is important to acknowledge that "evidence" is a contested domain. While this debate is discussed later in this chapter (see section 2.2) and in Appendix A, the use of "evidence" in this section is associated with research findings, as this is generally how it is discussed with regards to knowledge transfer and evidence-based approaches in health care settings.

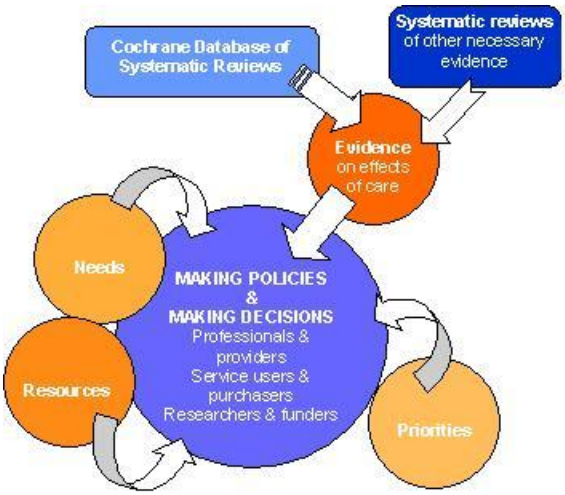
In general, the successful transfer of information inherent to evidence-based approaches is thought to be best facilitated by "improving the availability and presentation of evidence by identifying, synthesizing, and disseminating evidence…in practical, accessible formats" (Cordeiro, Kilgour, Liman, & Jarvis-Selinger, 2007, p. 18). This requires what Choi (2005) refers to as integration and simplification:

> Integration involves gathering data from multiple sources and synthesizing that information. Simplification is the process whereby the synthesized information is translated into a form readily understandable by policy makers and other health information users (IPHRC, 2005).

This is exemplified by the Cochrane Collaboration, which aims to ease the assessment of health research and to help people to make well-informed healthcare decisions "by preparing, maintaining, and promoting the accessibility of, systematic reviews of the effects of health care interventions" (Grimshaw, 2004). As understood in this context, a systematic review identifies, appraises, and synthesizes all high quality evidence relevant to a particular healthcare question. In an effort to help readers understand the approach,

vision, and method of the Cochrane Collaboration's Database, a diagram of their approach is provided below.

Figure 1: Developing Evidence-based Health Policies



(CMG, 2007b)

Since the establishment of the Cochrane Collaboration in 1993 by British epidemiologist Archie Cochrane, the reviews published by the Collaboration have become globally renowned as: "sources of high quality, reliable health information" (Cochrane Collaboration, 2007b). As a result, researchers, policy-makers, and practitioners alike have come to rely on the Cochrane reviews for relevant information about effective healthcare interventions and evidence-based medicine. The success of the Cochrane Collaboration has encouraged other groups to develop similar databases (Cochrane Collaboration, 2007b). For example, the University of Victoria's Utilium Network connects managers in the public service with academics by providing "concise summaries of the latest management research, prepared by leading academics" (UVic

BUS, 2006). This approach demonstrates thinking similar to the Cochrane Collaboration because it is based on the notion that the dissemination of evidence from the research community to users of research is useful (Grimshaw, 2004).

The approach to the use of research through a two-communities perspectives or an evidence-based approach shares a common view of the transfer process: knowledge gained through research should be provided to potential users of research to inform (and hopefully improve) practices and experiences of health. As a result, the primary focus is on using research in practice by pushing research to end-users. While this "non-integrated KT" approach (Gold, 2006) may be effective and appropriate in some circumstances – for example, where research can be easily transferred to the users without the need for contextualization and collaboration – there has been increasing discussion about its potential limitations for all research environments. This is discussed further in the following two sections.

2.1.2 (Non) Integrated KT and (Ex) Change

A common criticism of unidirectional approaches to KT is that they are an "ineffective way to ensure the adoption and implementation of research results" (Landry, Amara, and Lamari, 2001). As Backer (2000) explains, the greatest failure of knowledge transfer strategies is that they assume "that getting the information out alone [is] enough to create change" (p.364). In general, however, passive dissemination approaches have been shown to be ineffective (Cordeiro, Kilgour, Liman, & Jarvis-Selinger, 2007;Grimshaw &

Eccles, 2004; Grol & Grimshaw, 1999). As the Cochrane Collaboration suggests in a disclaimer on its website, more than just the transfer of research evidence is required for research to have impact:

> 'Evidence' can be essential in evaluating the effectiveness of healthcare interventions, [but] well-informed decisions also require information and judgments about needs, resources, and values; as well as judgments about the quality and applicability of evidence" (Cochrane Collaboration, 2000).

Grunfeld et al. (2004) suggest that more creative strategies have greater potential to communicate health information in a usable way. Consequently, there is a growing voice in the literature that argues that a "shift from 'moving' evidence to solving problems is overdue" (Pablos-Mendez & Shademani, 2006, p. 81).

Recognizing concerns with the definitional perspective of knowledge transfer, several academics and organizations have adopted the term "knowledge exchange." The Canadian Health Services Research Foundation (CHSRF) is one of the most prominent research organizations in Canada that has adopted this term to replace knowledge transfer. Confirmation of this can be seen on the CHSRF's website, which titles its discussion of knowledge exchange as: "Knowledge exchange (formerly knowledge transfer)" (CHSRF, 2007). In this discussion, the CHSRF defines knowledge exchange as:

> Collaborative problem solving between researchers and decision makers that happens through linkage and exchange. Effective knowledge exchange involves interaction between decision makers and researchers and results in mutual learning through the process of planning, producing, disseminating, and applying existing or new research in decision-making (CHSRF, 2007).

Like knowledge transfer, knowledge exchange has grown out of the 'two communities theory" and, therefore, is also conceptualized as something that occurs between and across two different worlds. An important difference between the two terms, however, is that knowledge exchange places greater emphasis on the interactions that take place (or should take place) between researchers and users in order to put research into action (Graham et al., 2006). Instead of focussing on how to facilitate the dissemination of research findings from researchers to users (knowledge transfer), knowledge exchange emphasizes the importance of facilitating linkage and exchange:

> Linkage and exchange is the process of ongoing interaction, collaboration, and exchange of ideas between the researcher and decision-maker communities. In specific research collaborations, it involves working together before, during, and after the research program (CHSRF, 2007).

The policies of the Utilium Network – discussed earlier as being reflective of the Cochrane Collaboration's evidence-based approach – also reflects the knowledge exchange perspective. This is because the Utilium network also offers "avenues for interaction that facilitate information exchange and allow academics and managers to develop new collaborative relationships" (UVic BUS, 2006).

The benefits of interactive and collaborative approaches for facilitating knowledge exchange have been articulated by academics, including Dunn (1980), Huberman and Thurler (1991), Landry, Amara, & Lamari (2001), Nyden & Wiewel (1992), Oh (1997), and Yin and Moore (1988). What these authors purport is that "the more sustained and intense the interaction between researchers and users, the more likely it is that there will be utilization" (Landry, Amara, & Lamari, 2001, p. 400). While there are a number of

different strategies that are and can be designed to improve linkages between researchers and policy-makers, one that has received particular attention is the idea of knowledge brokering (Pyra, 2003). The purpose of a knowledge broker is to act as an intermediary, or facilitator, between the two communities by assisting in problem solving, communication, and negotiation between parties (Pyra, 2003). To do this, knowledge brokers must possess a number of different skills, including those related to: research methods, marketing, and negotiation (Pyra, 2003, p.11). In addition to these skills, more intangible characteristics, such as one's charisma and capacity to engage necessary parties, are also thought to influence one's ability to be successful knowledge broker. Despite the unique and multifaceted skill set required, knowledge brokers are found in a number of common institutions and organizations, including: "universities, research organizations, governments or within organizations dedicated to the diffusion of knowledge" (Pyra, 2003, p. 10). In addition to the work of knowledge brokers, strategies that bring researchers and policy-makers together also fit with the knowledge exchange approach. For instance, joint seminars and meetings are thought to help researchers and policy-makers work collaboratively together.

Like knowledge exchange, knowledge translation definitions are also thought to have been developed in a response to the perceived downfalls of the one-way approach underlying knowledge transfer definitions. And while the conceptual development and use of the term knowledge exchange by organizations and institutions is somewhat limited, knowledge translation has received considerable attention in Canada (Graham et

al, 2006). Like the growth and popularity of the term knowledge translation warrants, the forthcoming discussion will provide a detailed discussion of its definition and common usage.

2.1.3 Knowledge Translation: The CIHR and Integrated KT

While the term "knowledge translation" (KT) has been discussed in many different ways, one definition – the Canadian Institutes of Health Research's (CIHR) definition – has received both national and international recognition and is often used as the 'standard' definition of knowledge translation, or KT (Cordiero, 2007, p. 10). As such, the definition and approach of the CIHR to knowledge translation is the primary focus of this sub-section.

The official definition provided by the CIHR describes knowledge translation as:

> The exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users - to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system (CIHR, 2005a).

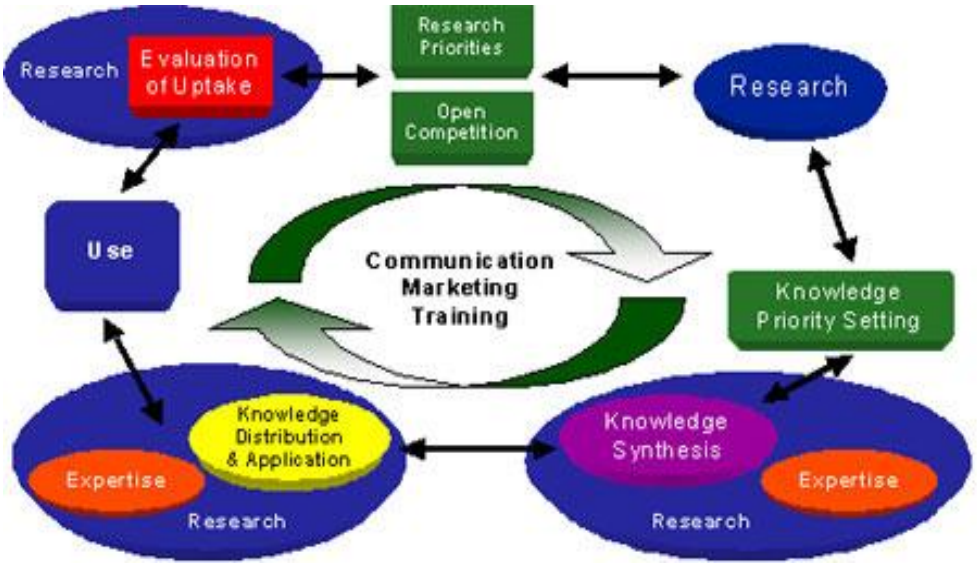
Despite the common usage of the CIHR's definition, it has been argued that it is too abstract. This is seen as problematic because it cannot be easily operationalized or understood in practice (Graham, Logan, Harrison, Straus, Tetroe, Caswell, & Robinson, 2006; Cordeiro, Kilgour, Liman, & Jarvis-Selinger, 2007). In an effort to better understand the CIHR's definition, Cordeiro, Kilgour, Liman, & Jarvis-Selinger (2007) discussed its three primary elements. These are summarized below:

1. *KT is based on the application of knowledge gained from research:* In an effort to ensure the effective application of research, "[t]he CIHR's

> understanding of KT emphasizes the quality of the research (or evidence) prior to dissemination and implementation of research" (Cordeiro, Kilgour, Liman, & Jarvis-Selinger, 2007, p. 12).
>
> 2. *Interactions are important for KT:* Like the CHSRF's definition of knowledge exchange, the CIHR explains that KT requires active and ongoing interactions between researchers, users of research, and other stakeholders. Unlike knowledge exchange, however, the conceptualization of KT interactions includes those with traditional audiences (i.e. policy-makers), as well as less commonly targeted groups (i.e. the general public and other stakeholders) (Cochrane Musculoskeletal Group, 2007). The CIHR's (2004) *Knowledge Translation Strategy* highlights this point, as it describes knowledge translation as a 'dialogic and iterative' process. Here, a more holistic conception of the ways in which users and creators of knowledge interact and engage throughout the research process is developed (Davis, 2006). As the IPHRC explains, "[t]his multiple entry point view of knowledge translation activities provides a more active and engaging model of knowledge translation" (p. 3).
>
> 3. *The purpose of KT is to improve health outcomes*: By focussing on KT, especially in areas of knowledge generation and implementation where the CIHR has core competencies, the CIHR aims to improve the health of Canadians.

In addition to Cordeiro, Kilgour, Liman, & Jarvis-Selinger's (2007) review of the meaning of the CIHR's definition, the CIHR itself has sought to make more explicit the operationalization of its definition in practice. For example, the CIHR has developed a model to help explain its understanding and approach to KT. It attempts to do this by relating its conceptualization of KT to the various stages of the "knowledge cycle."

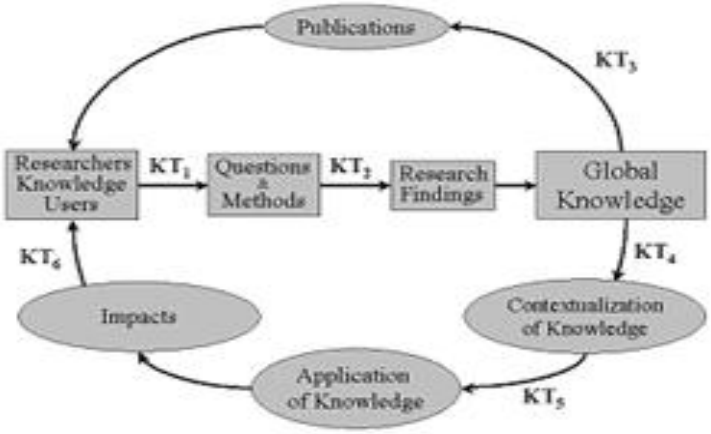
Figure 2: CIHR's Depiction of the Knowledge Cycle



(CIHR, 2003)

By presenting knowledge generation as a cyclical process, the CIHR aims to highlight the importance of KT for the production, synthesis, dissemination, and evaluation of knowledge. This is because it is believed that "research offers many opportunities for knowledge exchange beyond publications" (CIHR, 2003). In particular, the CIHR discusses six points in the research cycle where knowledge translation can occur. This is represented and explained in Figure 3 and Table 1 below (CIHR, 2003).

Figure 3: CIHR's Depiction of Knowledge Translation Opportunities within the Research Cycle



(CIHR, 2003).

Table 1: CIHR's Description of Knowledge Translation Opportunities within the Research Cycle

KT1: Defining research questions and methodologies;
KT2: Conducting research (as in the case of participatory research);
KT3: Publishing research findings in plain language and accessible formats;
KT4: Placing research findings into the context of other knowledge and socio-cultural norms;
KT5: Making decisions and taking action informed by research findings; and
KT6: Influencing subsequent rounds of research based on the impacts of knowledge use.

(Table adapted from CIHR, 2003).

Traditionally, "[m]odels of research use understand the generation and implementation of research findings as movement between discrete entities and locate evidence as external to the practitioner environment" (Nutley, Walter, & Davies, 2003). The CIHR's approach to KT and analysis of KT activities, however, offers a much more holistic view of the way in which the various processes of knowledge translation develop and interact across

time and space.[4] Thus, the CIHR's conceptualization of KT challenges end-of-grant KT's separation of research from practice and pushes towards a conceptualization of 'integrative' or 'embedded' KT (Gold, 2006; Graham, 2007). Such a conceptualization considers knowledge translation as an ongoing part of the research process: it begins prior to the submission of a research proposal and ends after the data has been destroyed (Graham, 2007). As such, "knowledge translation is conceptualized as an ongoing process, not a one-time act" (Pyra, 2003, p. 14). The CIHR's conceptualization of KT as something embedded in the research process is surprising because of its role as a health research funding agency; funding agencies tend to advocate for the 'end-of-grant KT' approach, which complements the 'publish or perish' mantra of academia. This is significant for the field of health research, as changes to the vision and process of the granting process has the potential to impact the way in which health research and KT is conducted in Canada.

By alluding to KT as a process, integrated KT focuses on relationship building and developing more innovative research methods to integrate generators, users, and implementers of knowledge in comprehensive KT activities. Several mechanisms that can be used to help build such relationships have been suggested in the literature, such as: the early involvement of policy-makers in the research project; creating opportunities for researchers to get a glimpse into the policy world (i.e. through shadowing or job sharing)

[4] Academics models that reflect the multi-dimensional nature of knowledge translation have also been developed. For instance, Jacobson (2003) suggests that researchers must take five specific areas into account in order for research to facilitate effective knowledge translation. These include: (1) the user group, (2) the issue, (3) the research, (4) the knowledge translation relationship, and (5) dissemination strategies.

and vice versa; involving policy-makers in governance structures of research centres; and creating opportunities for more face-to-face meetings all delineate means of such relationship building. Because of the focus of integrated KT on relationship building and process interactions, it has also been explained as "socializing evidence for participatory action" (Gold, 2006). It is from this understanding that researchers and users can be recognized as partners in knowledge generation and dissemination processes.

A final point must be made about the CIHR's multi-faceted, embedded approach. This is that this broader conceptualization has resulted in knowledge translation being described as encompassing a number of different KT terms and practices, including:

> Knowledge dissemination, communication, technology transfer, ethical context, knowledge management, knowledge utilization, two-way exchange between researchers and those who apply knowledge, implementation research, technology assessment, synthesis of results within a global context, development of consensus guidelines, and more (CIHR, 2005a).

As a result, it is often considered to be an 'umbrella' term. While this is regarded positively as a means to label the debate and account for the plethora of KT terms, it could also be criticized for obscuring differences between the conceptualizations of the terms it subsumes.

2.2 Making Sense of it All

The majority of the academic discourse in this field has focussed on examining the similarities and differences between the various terms used to describe the process(es) of moving knowledge gained from research into effective social action. While three have been outlined above, many more could have been included in this discussion. Examining

the similarities and differences between the various terms used is an interesting and useful enterprise, especially as knowledge translation begins to establish itself as an area of study within and across disciplines (Ranford & Warry, 2006). As Backer (2000) states with regards to the focus of the debate on terminology, however, academic discussions of KT need to "stop wasting energy on distinctions that don't matter" (p. 364). What Backer's comment ignores, however, is that the debate is about more than just semantics – it points to key differences in understandings about knowledge and practice, as well as the relationships between the two.

As the KT debate focuses on the ways in which KT can be developed from a research perspective, it is easy to assume that research is of utmost importance to policy and has much to say and add to policy decisions. It is important to remember, however, that research is just one source of information for policy-makers:

> In the world of social policy, science is just one point of view, and frequently it is not the most influential…. Policymakers and analysts are not moved primarily by theory or empirical data. They are driven by political, economic, and social forces that reflect the society in which they live (Shonkoff, 2000, p.181).

These differences are further reflected in different understandings of what constitutes "evidence" (refer to Appendix A for a brief discussion of the "evidence debate"). The definition of "evidence" is important because it determines what knowledge is being transferred and, thus, can greatly impact the way in which the idea of KT is conceptualized. Consequently, the KT debate will need to find ways to account for these differences. For, it is by understanding the entirety of the health research and policy

landscape that priorities for health care can be partnered with knowledge of health care solutions to improve the overall health and well-being of the country.

2.3 Knowledge Translation in Aboriginal Health

In reflecting on the above discussion and noting that the focus of this research project is on knowledge translation in the field of Aboriginal health, it is important to examine what the Aboriginal health literature says about knowledge translation. As noted by the Indigenous Peoples Health Research Centre (IPHRC) in their Knowledge Translation Report (2005), we are in a "current state of uncertainty in respect to knowledge translation and what it means" (IPHRC, 2005, p.9). While the above literature review noted the truth of this statement with regards to the mainstream KT debate, it can be argued to have even greater relevancy for knowledge translation in Aboriginal health. This is because in addition to the challenges faced by the mainstream KT debate, those interested in understanding KT in an Aboriginal health context are challenged to examine how and if the mainstream debate is relevant to Aboriginal health. While there is only limited literature that discusses KT in an Aboriginal context (Hanson & Smylie, 2006; Kaplan-Myrth & Smylie, 2006; Martin, Macaulay, McComber, Moore, & Wien, 2006; Ranford & Warry, 2006; Smylie, Martin, Kaplan-Myrth, Tait, & Hogg, 2003; Wien, 2006), these texts raise some important points about the relevancy of terminology and definitions for Aboriginal contexts. A brief review of these texts and topics is provided below. The following chapter, however, will contextualize the mainstream KT literature for Aboriginal health. This will be done by fusing the limited Aboriginal KT literature

with perspectives relevant to KT discussed in the greater body of Aboriginal health research literature.

2.3.1 Assessing the Terminology

As noted in the mainstream KT literature, the CIHR's extensive development and use of the term knowledge translation has popularized this term. As one of CIHR's thirteen institutes is the Institute of Aboriginal Peoples' Health (CIHR-IAPH) (CIHR, 2005b), this term has also been at the forefront of the limited literature on Aboriginal KT (Hanson & Smylie, 2006; Kaplan-Myrth & Smylie, 2006; Smylie, Martin, Kaplan-Myrth, Steele, Tait, & Hogg, 2003). Nevertheless, it is important to note that the term knowledge transfer remains a popular term among many Aboriginal health research organizations, including the Network Environments for Aboriginal Research British Columbia (NEARBC), the case explored in this study. In many cases knowledge transfer and knowledge translation are not specifically differentiated. Where they are, the balance of support often lies with knowledge translation, as the one-way approach of knowledge transfer is seen as problematic in Indigenous contexts. In these cases, knowledge translation is the preferred term because it can be more easily adapted to an Aboriginal context and does not carry with it such a paternalistic approach (Ranford & Warry, 2006). Knowledge transfer has been described as paternalistic because it is thought to imply a one-way transfer of information from academic settings to Aboriginal Peoples (Ranford & Warry, 2006). As such, it devalues the knowledge held in Aboriginal communities and

disregards the potential for a two-way exchange of information. Consequently, it has been argued that:

> [I]n the Aboriginal context…knowledge translation [in contrast to knowledge transfer] better describes the process whereby mainstream health information is translated across cultural boundaries or is made culturally relevant to local context. Likewise, we can speak of knowledge translation when Aboriginal health knowledge is translated for the benefits of mainstream practitioner (Ranford & Warry, 2006, p.1).

Despite such endorsement, there remain concerns that the mainstream definition of KT needs to be further adapted to ensure that this translation is truly a two-way process (Ranford & Warry, 2006). This is because while the translation of Western research into practice has been the focus of KT studies and practices, the translation of Aboriginal knowledge into research is also needed: "[t]here is a clear need to inform mainstream researchers of the nature of Indigenous science, and the significance of expert opinions of Elders, Traditional persons, and healers" (Ranford & Warry, 2006, p.5). It is also important for conceptualizations of Aboriginal KT to include:

> Indigenously-led sharing of culturally relevant and useful health information and practices to improve Indigenous health status, policy, services, and programs (Janet Smylie quoted in Kaplan-Myrth & Smylie, 2006, p. 25).

In addition to concerns with knowledge translation's research-based focus, the word "translation" is met with mixed emotions because it implies that the knowledge is changed or modified in order for it to be used. This causes concern because it infers that the knowledge needs to be simplified, which could be seen as being just as paternalistic as the need for research to be "transferred" to communities is. An additional and final concern is that the term does not have much resonance within the Aboriginal community (IPHRC, 2005, p. 9). While this is the most worrying, it has been suggested that we may

need “to go through a period of incoherence before transformation of any system can occur” (IPHRC, 2005, p. 9). Whether this is the case or that a new term is needed, it is important to have a term that can be used as a general reference for discussions. The general acceptance of knowledge translation and its general usage in the mainstream KT literature is why it will be used throughout this thesis where specific terms are not noted.

CHAPTER THREE: THE ABORIGINAL HEALTH CONTEXT

While the concept of knowledge translation in mainstream health contexts requires further conceptual development, the previous chapter's literature review demonstrates that considerable progress has been made. For example, this literature has produced a number of different KT terms, models, and frameworks. In turn, these tools have helped stimulate discussions about what KT is and what it means in practice. While mainstream KT strategies and activities may have relevance for understanding knowledge translation in Aboriginal contexts, little time has been invested in examining whether or not this is the case:

> With few exceptions, knowledge translation activities that link health research to practice in Aboriginal communities have been overlooked. When knowledge translation does occur, there appears to be little adaptation of mainstream approaches to the Aboriginal community context (Smylie, Martin, Kaplan-Myrth, Steele, Tait, & Hogg, 2003, p. 140).

This is concerning considering the results of a web-based survey conducted by the Indigenous Health Research Knowledge Transfer/Translation Network (IHRKTN), which demonstrated that the ongoing use of mainstream KT strategies in an Aboriginal context is ineffective (Ranford & Warry, 2006).

A lack of attention to Aboriginal KT practices is not a result of a lack of experience, understanding, or interest in KT in Aboriginal communities (IPHRC, 2005, Ranford & Warry, 2006). In fact, there is a great history of knowledge translation in Aboriginal communities:

> From time immemorial, Indigenous peoples have been seeking out new knowledge information from outside their territories, and adapting it to meet the needs of their communities (IPHRC, 2005, p. 20).

A lack of attention to and discussion of the history of knowledge translation in Aboriginal contexts has created an allusion that KT is something that requires particular expertise. As a result, it is intimidating to many Aboriginal Peoples:

> We [the Indigenous community] fall too easily into this old idea of knowledge translation as an expert system: the researcher, as an expert, does a literature review, gets their ethics approval, and then goes out and does what the research proposal said they were going to do, then goes back and analyzes the data, writes it up, publishes it in a journal…. later someone reads that journal and wonders how that knowledge in the journal could be translated into expert practice. Something new has come along (i.e. Indigenous approaches to knowledge translation ed.) – it isn't really new, because it is Indigenous practice – as human beings, that notion of sitting in a circle and talking to each other to find out what we can learn from each other. That is very old practice. It is tried, tested and true over thousands of years and generations (Eber Hampton quoted in Kaplan-Myrth & Smylie, 2006, p. 32).

Therefore, instead of looking at KT as a mainstream practice that Aboriginal communities need to learn about, it appears that the Western scientific system may have a lot to learn from Indigenous communities. Just like the concept of KT has been described as benefiting from a two-way exchange of information, KT discussions can also benefit from a two-way learning process. It can be argued that the Aboriginal health research community has an important role to play in facilitating this understanding: because of the unique position and skills of Aboriginal health researchers, they have the ability to inform and challenge the non-Aboriginal population of their role in Aboriginal KT (IPHRC, 2005, p. 18). Recognizing this, this section will begin this contextualization process by examining the ways in which the idea of KT – how research is (or can be) transformed into positive action – is understood and expressed in the Aboriginal health research literature.

A general note about the field of Aboriginal health research must be made before engaging in a discussion about Aboriginal KT. This is that in addition to the need for Aboriginal health research to be scientifically sound, it must also be community relevant (Smylie, Martin, Kaplan-Myrth, Steel, Tait & Hogg, 2003). As such, knowledge translation in Aboriginal health has tended to focus on the interactions that can or should take place between researchers and Aboriginal communities. The reasons underlying this focus and the challenges facing Aboriginal KT will be explored and the ethical, methodological, and political issues surrounding the relationships between Western and Indigenous knowledge systems are discussed under the following two headings: Aboriginal Research Ethics (3.1) and Navigating Worldviews (3.2).

3.1 Aboriginal Research Ethics

When beginning to conceptualize the idea of knowledge translation in Aboriginal health, it is important to answer the question: "why is knowledge translation important for the field of Aboriginal health research?" The answer that comes from the Aboriginal community is simple: "We've been researched to death…. [and] it's time we started researching ourselves back to life" (Brant-Castellano, 2004 p. 1). In other words, Aboriginal health research must be reoriented to reflect the needs, perspectives, and ideas of the community if its goal to enable action and positive change on Aboriginal health issues is to be achieved. While this reorientation is important for the generation of ethical research, it is also necessary for the facilitation of knowledge translation. This is because the growing body of research ethics and its focus on Aboriginal-researcher relationships

creates the foundation on which knowledge translation can evolve. The ethical landscape of research involving Aboriginal Peoples has developed from a environment of "whatever goes" to one where a number of ethical protocols exist at the community (KSDPP, 2007), regional (UVic IGOV, 2003), and national levels (Schnarch, 2004; Government of Canada, 2005; CIHR, 2006); all of which are in an effort to develop "more appropriate and enforceable protection of Aboriginal Peoples' interests in research activities" (Brant-Castellano, 2004, p.109). A review of some of the key initiatives, as well as an overview of the changing ethical landscape of Aboriginal health research, is provided in Appendix B of this thesis. What is important to note here is that the changing ethical landscape of Aboriginal health research does and will continue to impact understandings and practices of KT in Aboriginal health by, for example, articulating the nature and structure of research relationships and emphasizing the role that researchers have in engaging in KT at the community level.

3.2 Navigating Worldviews

In Aboriginal health research, the importance of ethical principles to ensure effective and appropriate research-community interactions is connected to the (often) cross-cultural nature of the work. That is, Western Science and Indigenous ways of knowing both have bearing on the environment and practice of Aboriginal health research. The difficulty is that these are two, seemingly opposed, worldviews:

> Western and native science traditions are very different in terms of the ways in which people come to know, the ways in which knowledge or understanding is shared, how knowledge is transferred from one generation to another and how knowledge is handled legally, economically, and spiritually (Cajete, 2000, p. 287).

One way to examine the differences between these two worldviews is to engage with the questions of the knowledge circle developed by Hanson and Smylie (2006), and examine potential answers that each worldview would provide. Such an examination is presented in Figure 4 and Table 2 below.

Figure 4: The Knowledge Circle

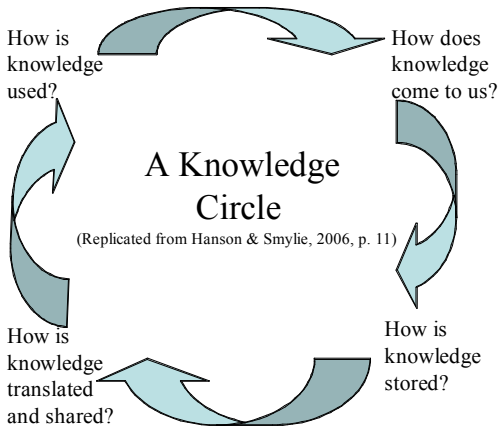


Table 2: The Questions of the Knowledge Circle

Questions	**Possible Answers**	
	Indigenous Knowledge Paradigm	**Western Knowledge Paradigm**
How does knowledge come to us?	Knowledge is experiential and accumulated over generations. For instance: "You get knowledge through ceremony, dream, while you are driving down the road and something comes into your mind. These are Indigenous places. We live on Indigenous land. Our ancestors have lived, experienced, and left behind their imprints in the rocks and the trees and the ideas we get" (Marie Battiste quoted in Kaplan-Myrth & Smylie, 2006, p. 22).	Knowledge is gained through scientific inquiry, education, experience and learning; the definition of 'knowledge' is often "limited to evidence and explanation within physical world" (ANKN, 2000)
How is knowledge stored?	Knowledge is often thought to be stored in the wisdom of elders, in traditional ceremonies, and in stories.	Knowledge is stored in texts, academic institutions, databases, technology, etc.
How is	Knowledge is often shared through stories,	Knowledge is translated through

knowledge translated and shared?	ceremonies, traditions, and through spirituality.	"Communication of procedures, evidence, and theory" (ANKN, 2000). Common methods for the translation of knowledge are: publication in journals, presentations at conferences, newsletters, the media and other dissemination outlets.
How is knowledge used?	Knowledge is used "to develop practical skills" (ANKN, 2000) and to enhance one's understanding of life and quality of life.	Knowledge is used to develop new technologies, products, and services in order to progress as a society.

While this table over-generalizes the differences between Western and Indigenous knowledge systems and disregards the culturally specific knowledge held within each community, it highlights the potential differences between Western Science and Indigenous ways of knowing – both of which influence Aboriginal health research contexts. Understanding such differences is integral to the idea of KT because the relationships that can be formed between the two worldviews are key to ensuring that knowledge gained through research is effectively translated into improved health for Aboriginal Peoples. The four models outlined below, which were drawn from National Indigenous Knowledge Translation Summit Report (Kaplan-Myrth & Smylie, 2006, p. 35-36), examine the various ways that one worldview could relate to another.

Table 3: Models of the Relationship between Western and Indigenous Knowledge Systems

Model Type	**Description of the Model and Relevance to KT Approaches in Aboriginal Health Research**
Model A: Mono-culture	According to this model, knowledge gained through western Scientific research is synthesized and applied through policy to the general population. Reflecting the traditional, one-way approach of knowledge transfer, this model "assumes a framework of imposition and infusion of questionable practices into cross-cultural settings. This is an established consciousness in the western world that only western ideas, practices, and conventions will receive the light of day and be supported by discourses and the appropriate funding for their formation. What that states to Indigenous peoples is that their ideas do not register nor have

	value in the national health consciousness" (IPHRC, 2005, p. 6).
Model B: Colonialism	The colonialist model is structured such that knowledge gained through western scientific research methods is synthesized and applied through policy and transferred to the Indigenous community. This would be the result if one simply applied the framework of knowledge transfer in mainstream health research to Aboriginal health contexts. As a result, however, Indigenous knowledge and health practices are displaced and Indigenous peoples ownership and self-determination of their health is displaced. The continued use of this approach, which privileges Western knowledge, means that Indigenous methods of health and healing are often ignored or are not validated or valued by the mainstream research, policy, and practice communities.
Model C: Appropriation	In this model, knowledge gained through Indigenous research methods is synthesized and applied such that it can be transferred into the Western system. This model has received some positive attention within the Aboriginal community with the hopes that it would help "to secure recognition for Indigenous knowledge and healing practices within the western mainstream" (IPHRC, 2005, p. 12). However, it is also seen as problematic for Indigenous peoples: it reflects a process of appropriation and "sets conditions for a new wave of opportunistic research by western institutions" (IPHRC, 2005, p. 6). The effective use of this model is also questioned because it is believed "Western trained researchers have not had the capacity to understand Indigenous systems of knowledge nor the ability to translate Indigenous understandings and ideas" (ibid).
Model D: Indigenous Framework	When KT is conceptualized through an Indigenous framework, research is synthesized within Indigenous-based knowledge systems and institutions and applied within Indigenous communities. This model remains much more of a potential model than an actual model because: "Indigenous communities do not currently have adequate access to resources such as funding to do the necessary developmental work that is required in this communities, relative to health…Dialogue and the ethical space theory may provide the cornerstones in this future development" (IPHRC, 2005, p. 7).

All four of these models explain the interactions between two discrete entities – Western Science and Indigenous ways of knowing. As a result, knowledge translation is conceptualized as the transfer of information from one system to another. These one-way conceptualizations assume an incompatibility between these two worldviews and, thus, that information can only be passed between them. This begs the question: "Can there be an interface between the two theoretical models that seem, at first glance, to be

diametrically opposed?" (Smylie, Martin, Kaplan-Myrth, Steele, Tait, & Hogg, 2003, p. 141).

The belief that Western science and Indigenous ways of knowing are separate and seemingly incompatible worldviews tends to ignore the relationship between these two worldviews and the potential benefit that one can draw from the use and incorporation of both. In recognizing this, it could be possible to add another model to the list – one that sits between models C and D above. This perspective is evident in the Aboriginal health literature that suggests that there is a place for both Western and Indigenous approaches in Aboriginal health. As Smylie, Martin, Kaplan-Myrth, Steele, Tait, and Hogg (2003) explain, however, the interaction between the two worldviews is connected to KT:

> The compatibility between Indigenous and Western models of knowledge generation and transfer relies critically on the system of interactions among researchers and users… For these systems to interface, knowledge translation methods for health science research must be specifically developed and evaluated in the context of Aboriginal communities (p. 141-2).

Further,

> Indigenous KT must acknowledge the differences in knowledge production and dissemination between Indigenous and Western knowledge systems and that appropriate KT practices will only occur when respectful and meaningful collaborative environments for dialogue and discussion are created (Ranford &Warry, 2006, p.6).

The ways in which these collaborative environments and space for dialogue can be created between the "two worlds" is discussed below through the concepts of community-based research (3.2.1), ethical space (3.2.2), and two-eyed seeing (3.2.3).

3.2.1 Community-based Research: Structuring and Facilitating KT

The terms community-centred and community-based, participatory, involved, and collaborative research are used interchangeably in the literature[5] to describe an approach to research that involves the community in all stages of the research process and design, while also upholding "the same values of methodological rigour and ethical review as other research approaches" (CIHR, 2006). While community-based, collaborative research can and has been used in many different fields of research and in many different contexts, its ability to help manage relationships, build trust, and facilitate learning has been demonstrated in the field of Aboriginal health research, where this approach is also used as a tool for enabling cross-cultural relationships. As such, community-based research approaches are viewed as an important component of ethically sound and effective research projects (Macaulay et al., 1998). Within the mainstream KT literature, it has been suggested that:

> The themes of 'quality of relationships' and 'trust' connected many different components of knowledge translation and were essential for collaborative research (Bowen & Martens, 2005).

According to the aforementioned web-based survey by the Indigenous Health Research Knowledge Transfer/Translation Network (IHRKTN), "[r]espondents were in strong agreement that there is a close relationship between KT and the establishment of partnerships between communities and researchers" (Ranford & Warry, 2006, p.13). By recognizing and incorporating Aboriginal Peoples as full research partners, community-based research is "grounded in mutual respect that ensures mutual benefit in all KT related initiatives" (Hanson & Smylie, 2006, p.7). Further, community-based research

[5] For a review of these terms and their various usages see: Israel, Schulz, Parker, & Becker, 1998.

provides a structure through which researchers and communities can come together to define and implement research and, potentially, influence practice; thus, exemplifying and structurally facilitating many aspects of the idea of integrated KT noted in the previous chapter (chapter two).

3.2.2 Ethical Space: Where Diversities Meet

The term "ethical space" was coined by Roger Poole in 1972 (Ford, 2006). The articulation of this term within Aboriginal health contexts, however, has been facilitated through the work of Willie Ermine. While the above discussion of community-based research discusses the structural facilitation of KT, the idea of ethical space discusses the interactions between Indigenous and Western worlds that underlie structural relations in Aboriginal health research. At this space of meeting, dialogue, and discussion it is necessary to overcome potential misunderstandings from the intersection of "two entities with different backgrounds, worldviews, and knowledge systems" (Willie Ermine quoted in Hanson & Smylie, 2006, p.34). As quoted in Ford (2006), Ermine explains that:

> There have been lots of good attempts by sincere people who have tried to build bridges, but these undercurrents [of the superiority of a mono-cultural, Western worldview] are powerful and keep washing away good intentions…When we have had breaches and ruptures in the past, it is because we have failed to look at the area in between our two worlds. It is in this ethical space that we can understand one another's knowledge systems.

This is because instead of talking about one another or to one another, ethical space is where these two entities talk together. The implications of this for knowledge translation is that it is within this space that researchers and potential users can meet to share ideas,

perceptions, and views of the knowledge gained through research and how it can or should impact practice.

Since the idea of ethical space remains fairly abstract, further discussion is needed to understand how it can be facilitated in practice. One thing that has been discussed, however, is that knowledge translation and the creation of ethical space is connected to the roles and responsibilities of the Aboriginal health research community (Ford, 2006): "We have a duty to protect and enter into knowledge translation – the ethical space that Willie talks about – and try to communicate" (Kaplan-Myrth & Smylie, 2006, p. 28). Enabling this development will likely require the support and guidance of key people that can facilitate interactions between the two worlds and encourage the development of such understanding:

> Given that there may be two distinct knowledge traditions with different ways of constructing meaning and practice, it is crucial that voices that can articulate the various contours of knowledge from each tradition be brought to a venue of dialogue regarding sustained population health (IPHRC, 2005, p. 5).

As Gaye Hanson suggested at the National Indigenous Knowledge Translation Summit, Métis People and other Aboriginals with mixed heritage are particularly skilled for this kind of 'knowledge brokering' work, as it is something that they must manage internally every day of their lives (Kaplan-Myrth & Smylie, 2006, p. 25). However, the specific ability to 'keep one foot in both worlds' has been described by Canadian Mi'kmaq Elder Albert Marshall of the Eskasoni First Nation as 'two-eyed seeing' (Wiber & Kearney, 2006). This concept is explored in the following section.

3.2.3 Two-eyed Seeing: A Foot in Both Worlds

As explained by Wiber and Kirney (2006), Marshall's idea of two-eyed seeing is based on:

> The mindful effort of learning to see from our one eye with the strengths of the Indigenous knowledges and ways of knowing while also learning to see from our other eye with the strengths of the Western (or mainstream, or Eurocentric, or conventional) scientific knowledges and ways of knowing and, furthermore, to mindful efforts towards using them together in our contemporary academic programs and community endeavours (p.76).

Or as Cheryl Bartlett says, "seeing via the strengths of both Indigenous and Western scientific knowledge and ways of knowing" (Wiber & Kearney, 2006). In looking at the world in between the two worldviews, it is possible to understand how and why there can be benefits to drawing on the strengths of both the mainstream health research community and the Aboriginal community: both groups and their respective worldviews offer different tools and perspectives that can help inform the ways in which we come to understand the health of individuals and populations, as well as potential solutions to relevant health issues. Thus, by weaving back-and-forth between Indigenous and Western scientific perspectives (Wiber & Kirney, 2006), two-eyed seeing has the potential to enable knowledge translation in an Aboriginal health context.

Despite its potential benefits, 'two-eyed seeing' is a difficult task. In the research context, it requires that one push the boundaries of the traditional research environment to ensure that the time and (ethical) space is provided to be able to draw on Indigenous and Western ways of knowing. It also requires that one challenge the traditional understanding of what and how knowledge is generated from research and translated into

practice. Some questions are also raised by this concept. For instance, whether it is possible to be able to see skilfully through both eyes and whether this skill is limited to particular individuals or groups? These questions will need to be discussed and addressed in the future.

3.3 Taking Theory into Practice

The above discussion demonstrates the uniquely complex context within which understandings of Aboriginal KT emerge. In recognizing this, however, it becomes increasingly clear that much more is needed to understand what knowledge translation means in this context, how it can be effectively put into practice, and how it can be used to improve the health and well-being of Aboriginal Peoples in Canada.

In drawing attention to the importance of conceptualizing Aboriginal KT, it is important to remember that Aboriginal Peoples are not a homogenous group, as each Aboriginal community has a distinctive cultural, political, and linguistic history. As such, "[e]ach community has its own unique context and policy-making environment, which must be taken into account in writing KT policy" (Hanson & Smylie, 2006, p. 8). It has also been noted that KT can take shape in many different ways:

> There is no single way of achieving knowledge translation; it is a variety of processes that take many forms. Some of these are: Making research findings accessible; training and education; involving communities and individuals in shaping research; engaging in meaningful dialogues (June Bold quoted in Kaplan-Myrth & Smylie, 2006, p.25).

This returns to the idea that while one type of KT may be appropriate in the mainstream health context, it many not be appropriate for an Aboriginal context. Further, what might

be appropriate for one Aboriginal community might not be appropriate for another. While this means that it may be impossible and unhelpful to conceptualize a common meaning of knowledge translation in Aboriginal health, it is possible to describe some common principles, ideas, and perspectives of KT in Aboriginal health. In order to reach this level of understanding, potential barriers to Aboriginal KT must be understood.

3.4 Understanding and Overcoming Barriers to Aboriginal Knowledge Translation

Ranford and Warry (2006) have identified a number of potential barriers to knowledge translation in Aboriginal health. The barriers discussed by Ranford and Warry (2006) "applied to the transfer of knowledge not only from researcher to research user, but from research user/community to researchers and the Canadian population-at-large" (p.11). In order to help create a comprehensive picture of the potential barriers to Aboriginal KT, the work of Ranford and Warry (2006) was combined with the ideas and perspectives of the Aboriginal health research literature reviewed in this chapter to develop the following table.

Table 4: Barriers to Aboriginal KT

Type of Barrier	Description of Barriers
Resources	"Lack of adequate resources (both financial and material) was identified as the leading barrier to knowledge transfer" (Ranford & Warry, 2006, p.11). Over and over, participants of the National Indigenous Knowledge Translation Summit highlighted that "resources are required at the community level" (Kaplan-Myrth & Smylie, 2006, p. 51). Aboriginal Peoples and organizations also face "challenges associated with accessing government funding for community-based research and health services" (IPHRC, 2005, p. 17). For example, some communities have found that "it is a struggle to validate their own traditional healers and medicine people to funding agencies" (IPHRC, 2005, p. 17).
Language and Literacy	The "importance of Native languages, the fact that plain language was not

	used, and the existence of conceptual differences between researchers and research users" (Ranford & Warry, 2006, p.11); "It is our responsibility to learn many languages, to talk to all the people we come into contact with, to find the ways to make that immersion" (Marie Battiste quoted in Kaplan-Myrth, 2006, p. 29). The use of the English language is also thought to have important implications for communicating health information, as "the English language is inherently tied to colonial histories" (IPHRC, 2005, p. 13): as such, it is very important to use "the right words to convey health information, [while also] taking into account the cultural connotations of even English words" (IPHRC, 2005, p. 13). As such, cross-cultural differences in communication methods are important to take into account.
Community-level	"[L]ack of interest/poor education at the community level, turn-over of policy makers at the community level and lack of research capacity at the community level" (Ranford & Warry, 2006, p. 11) are considered as major barriers to Aboriginal KT.
Time	Lack of time "to engage in knowledge transfer activities or build community-academic partnerships" (Ranford & Warry, 2006, p.11) is often thought to limit the capabilities of researchers and their partners to engage effectively in KT. Further, it is often argued that adequate time is not provided by funding agencies, institutions, and organizations to conduct integrated KT.
Institutional/structural	"Research Ethics Boards, faculty who don't understand KT or who are willing to engage in KT activities due to a perceived lack of return" (Ranford & Warry, 2006, p.11) create institutional and structural barriers to KT. A lack of time and resources devoted to Aboriginal health and knowledge translation at the institutional (i.e. universities, government) and organizational level (i.e. research groups and NGO's) are also considerable barriers.
Ethics	Lack of trust "at the community level with respect to researcher's intentions, motivation for engaging in research, outcome and benefit of research to the community" (Ranford & Warry, 2006, p.11) continues to act as a significant barrier to Aboriginal research and KT. This is perpetuated by a "perceived lack of mutual understanding/respect between the academic and Aboriginal community" (Ranford & Warry, 2006, p.11).
Neglect/Ignorance of Aboriginal Health issues	The translation of knowledge of the health conditions of Aboriginal Peoples is thwarted at the political level because "Aboriginal health issues not recognized as important/relevant" (Ranford & Warry, 2006, p.11).
Cultural & geographic	"[T]he diversity of Aboriginal cultures and the remoteness of many Aboriginal communities" (Ranford & Warry, 2006, p.11) is thought to create cultural and geographic barriers to Aboriginal KT, as it makes communication, knowledge sharing, knowledge exchange, and other related KT practices, more difficult.
Methodological Differences	A common barrier to Aboriginal KT discussed in the literature is the differences in Aboriginal and Western Scientific methods and worldviews. "Differences in disseminating, collecting, and storing information: Western knowledge shared through journals, whereas a lot of Indigenous knowledge is intimate, private, shared only within families and communities" (Kaplan-Myrth & Smylie, 2006, p. 41).

In reviewing this table it is easy to be overwhelmed by the multitude of potential barriers to effective knowledge translation in Aboriginal health. To those in the field, however, the length of the list is not surprising. This is because, for example, the complexity of the

research environment, a history of unethical research practices, social and political neglect of Aboriginal health issues, and a continued lack of capacity in the field creates ongoing obstacles for the Aboriginal health research community. What is missing from the list, however, is a general mention of the influence of political structures, ideas, and practices at the community level on the practice of KT. This is important to add because, as one could imagine, community power structures or political divisions at the community level could obstruct KT.

While it is certain that progression forward will require time, effort and dedication, much more needs to be known about where opportunities for KT can be found and to understand better Aboriginal KT. Examining how KT is perceived, understood, and practiced within a particular Aboriginal health research context is an important way to begin to refine the conceptualization of KT in Aboriginal health. Building on the theoretical framework laid out in these first two chapters (chapters two and three), this study was centred around the question "what is knowledge translation in Aboriginal health?" Its design as a single-case exploratory case study and its use of semi-structured qualitative interviews to collect data pertaining to this question is outlined in the following chapter.

CHAPTER FOUR: STUDY DESIGN AND METHODOLOGY

The study design and methodology of this research project were combined in this single chapter in order to provide a coherent discussion of this thesis' design, process, and practical application.

4.1 Study Design

As Yin (2002) explains, a case study is an empirical inquiry that investigates a phenomenon within its real-life context. Traditionally, the research community has criticized case study research. Two common criticisms are that case studies are only suitable for generating hypotheses and that single-case case studies cannot be generalized to other contexts and, therefore, do not contribute to knowledge development (Flyvbjerg, 2006). What these criticisms ignore, however, are that case studies are an excellent learning tool and provide a practical way for researchers to engage in comprehensive and contemporary examinations (Yin, 2002). As this level of investigation is needed to begin to explore the complex and evolving topic of knowledge translation in Aboriginal health, this study was structured as a single-case exploratory qualitative case study. The research design is explained further below.

4.1.1 Exploratory Case Study Research

Exploratory case studies balance the need for flexibility and structure in a research design and, thus, enable researchers to:

> [C]onduct a fairly comprehensive, open-ended search for relevant information, identify major themes and patterns associated with the phenomena of interest, develop or adopt constructs that embrace the

> patterns, articulate tentative hypotheses about the meanings of the constructs and their relations, and refine questions and/or suggest conceptual perspectives that might serve as fruitful guides for subsequent investigations (p. 271).

In an area such as Aboriginal knowledge translation, where the literature is limited and investigations undeveloped, this kind open-ended approach is a useful and logical first step (Ogawa & Malen, 1991; Mayer and Greenwood, 1980; Yin, 1984). Structuring this study of KT in an Aboriginal health research context as an exploratory case study also enabled the researcher to gather the "type of context-dependent knowledge" (Flyvbjerg, 2006, p. 221) needed to begin to conceptualize KT in Aboriginal health.

4.1.2 Selecting the Case

As the capacity of the Aboriginal health research community is still growing and the concept of knowledge translation with regards to Aboriginal health research is only just being defined, the number of cases within which Aboriginal KT can be studied are quite limited. This is because in order to explore knowledge translation, competency in knowledge translation must be present at the institutional and/or individual level.[6] The Network Environments for Aboriginal Health Research British Columbia (NEARBC) was selected as the case for this research study because competency in KT was well established. For example: it has a mandate to increase knowledge transfer across the province; it is the only Aboriginal health research network in BC; is composed of large, diverse, and active membership; seeks to engage people from many different communities and groups on issues related to Aboriginal health; incorporates a experts

[6] "Competency" is used here to broadly refer to the need for the case to demonstrate that it has 'expertise' or 'experience' in knowledge translation.

representing key groups in the field of Aboriginal health in BC in its governance structure; and, has a competent and dedicated staff. As such, key individuals within NEARBC were considered to be well positioned to provide useful information with regards to Aboriginal KT. While a detailed review of NEARBC is provided in Appendix C, the following sub-section will provide the reader with some background information about the case.

4.1.3 The Case Study

The Network Environments for Aboriginal Research British Columbia (NEARBC) was first funded by the Michael Smith Foundation for Health Research (MSFHR) in 2004 with a mission to:

> Create an environment where researchers and communities collaborate to develop research capacity that is relevant to Aboriginal Peoples and is competitive in national and international arenas (NEARBC, 2006).

To fulfill this mission, NEARBC structured itself as a geographically dispersed network comprised of three "nodes" or regional centres.[7] Because the MSFHR requires that funding be administered through recognized academic institutions in BC, NEARBC's nodes are located at three universities located in three different regions of BC – the University of Victoria (UVic) on Vancouver Island, the University of British Columbia (UBC) in Southern BC, and the University of Northern British Columbia (UNBC) in Northern BC. The network's co-leaders and NEARBC's programs manager, whom are based at the University of Victoria in the CIHR-Institute of Aboriginal Peoples' Health

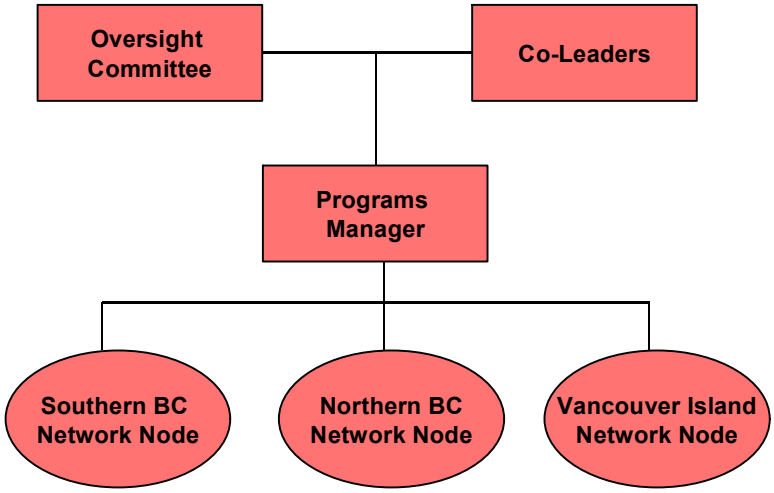
[7] The logic behind this structural arrangement was that by being physically present across the province, NEARBC would be able to better connect researchers and Aboriginal communities spread throughout British Columbia.

offices, provide strategic direction for the network.[8] While the regional unit reviews and approves the work plans and budgets of the nodes, the day-to-day work of the nodes is autonomous of the regional unit. The job of the node leader and node coordinator, who carry out the work of each node, is to engage with the Aboriginal communities in their region to assess their research needs and their position with regards to research, as well as to facilitate relationships between researchers and communities that coincide with these perspectives.

In addition to the nodes and regional coordination unit, an advisory body – the Oversight Committee – "provides guidance and ensures that the activities of NEARBC and its leadership are compatible with the objectives of the Network" (NEARBC, 2007c). Thus, while the co-leaders act as "bankers" for the network, the Oversight Committee provides information to the co-leaders to effectively govern the progress of the network. The overall structure of the network is pictured below.

[8] The regional co-ordination unit is responsible for managing the operational and functional activities of the network as a whole, such as maintaining the website, coordinating the Oversight Committee, and reporting to the funding institution. The regional unit also acts as a liaison between the funder (MSFHR) and the implementation of the current work plan of the nodes.

Figure 5: NEARBC's Organizational Structure



Note: This figure was created in consultation with NEARBC's co-leaders and programs manager as an update to the original structure developed by Kmetic, Reading, and Edgar (2007).

To ensure comprehensive and effective governance that is representative of the overall membership of the network,[9] the Oversight Committee includes individuals that represent a variety of different organizations, including: (1) Aboriginal community organizations, (2) the Federal Government, (3) the Provincial Government, (4) Provincial Health Authorities, and (5) four provincial universities.[10] In addition to representatives from each of these groups, NEARBC's three node leaders sit on the Oversight Committee. As a result, the Oversight Committee is comprised of twelve (12) people.

[9] As outlined on NEARBC's website, membership includes: institutionally-based researchers from all disciplines; research trainees and students; Community-based researchers; community collaborators - i.e. Aboriginal (First Nations, Métis and Inuit) organizations and community-based organizations; service providers and directors working in the areas of health promotion, prevention and treatment with an interest in evidence-based practice; policy makers, including local and regional health authority representatives and others interested in evidence-based policy and planning; and individuals with an interest in Aboriginal health research (NEARBC, 2007a). A more detailed description and discussion of NEARBC's membership is provided in Appendix B.

[10] The four universities represented on the NEARBC Oversight Committee are: the University of Victoria (UVic), the University of British Columbia (UBC), the University of Northern British Columbia (UNBC), and Simon Fraser University (SFU).

4.1.4 Qualitative Research Methods

The term "qualitative research methods" is often used in the literature "to refer to a series of research strategies: participant observation, and in-depth, unstructured or semi-structured, interviews" (Burgess, 1984, p. 2). Qualitative methods are appropriate for exploratory case study research because qualitative methods provide a means to examine the meaning or practice of complex phenomenon in the human world – a quality necessary to examine and explore unknown concepts (Yin, 2002; Burgess, 1984). While this is certainly the case for this research project, the use of qualitative research methods is also a practical choice: the paucity of information about knowledge translation in Aboriginal health highlights that data, which can provide insights about current understandings as well as directions for the future, is needed. The particular use of semi-structured interviews to explore the idea of knowledge translation within the case of NEARBC is discussed in section 4.2.2.

4.2 Methodology

In addition to the above discussion about the structure and design of the research project, this section will outline the process and methods of this research study.

4.2.1 Ethical Review

On August 24th, 2007, this research project was granted a certificate of approval (Protocol Number 07-220) by the University of Victoria's Human Research Ethics Board (HREB). Approval for the project was also received from the Network Environments for

Aboriginal Research British Columbia's (NEARBC) original Oversight Committee.[11] A copy of this letter is attached in Appendix D. Prior to receiving these approvals, the presence of some unique relationships between the researcher/Master's student/author of this thesis and Dr. Jeffery Reading and Dr. Andrew Kmetic had to be addressed. This is because Drs. Reading and Kmetic are involved with the Master's thesis as a co-supervisor and committee member, respectively, and are also co-leaders of NEARBC. A detailed explanation of these relationships and the methods used to manage them effectively is provided in Appendix E.

4.2.2 Data Collection

Documentation developed and published by NEARBC (i.e. from the website and brochures), as well as documentation discussing the network (i.e. from meeting minutes, evaluation frameworks, and the work of consultants) have been reviewed extensively by the researcher. It is this information that informed the choice of NEARBC as a case study and, thus, formed the basis of this chapter's discussion of the organizational structures and functional practices of NEARBC. Despite this work, the primary form of data collection was semi-structured qualitative interviewing. This is because while documentation helped give context to the network and this research, semi-structured qualitative interviews provided the means to obtain the rich and diverse data needed to

[11] Approval was sought from the Oversight Committee that existed before the Oversight Committee and Advisory Committee were rolled into one Oversight Committee. While Appendix A reviews the evolution of the oversight committee in greater detail, it is important to note here that the use of the term "Oversight Committee" in the consent form and other recruitment materials refers to the old Oversight Committee, therefore, not the majority of the targeted participants. However the "Oversight Committee" referred to in the text of this thesis refers to the new combined committee.

examine the definition and application of the term knowledge translation. In order to get this information, semi-structured, qualitative interviews were conducted with people involved in or associated with NEARBC. Information about the target population of these interviews, the recruitment process, as well as the structure and approach of the interviews is provided below.

Target Population

The population targeted for this research project included two distinct groups: (1) the NEARBC Oversight Committee and (2) NEARBC staff and students. As described earlier in this chapter (see section 4.1.3), the Oversight Committee is comprised of 'experts' in the field of Aboriginal health representing Aboriginal community organizations, the Federal Government, the Provincial Government, the Provincial Health Authorities, the provincial universities, and the three NEARBC nodes. While there are currently twelve members on the Oversight Committee (NEARBC, 2007c), there were thirteen (13) at the time of the study. Therefore, this target group included 13 individuals. The second group targeted – "NEARBC staff and students" – refers to the three (3) nodes coordinators, two (2) NEARBC students affiliated with a NEARBC node, and NEARBC's programs manager. In total, nineteen (19) people were targeted for recruitment.

The reason these groups, and the individuals that compose them, were targeted is because they are uniquely positioned to provide unique insights about the understanding and

practice of knowledge translation in Aboriginal health research contexts today. The diversity of the population also ensured that the research involved multiple perspectives: "A case study researcher is looking to collect a wide variety of opinions in order to tell the most accurate story" (Campbell, Harvey, & DeArmond, 2002, p. 23). In the end, a total of nineteen (19) people were targeted for recruitment. It was believed that ten (10) to twelve (12) individuals would have to be interviewed from this population in order to reach saturation.

Recruitment

Recruitment was conducted by the PI through a multi-stage process, which included the use of email, mail, and the telephone for correspondence. Particular care was taken by the researcher to ensure that confidentiality and anonymity were preserved through this process; this was especially with regards to the unique relationships noted above and discussed in Appendix E. A detailed explanation of the recruitment process and copies of the recruitment materials are provided in Appendix F.

Interview Structure

In order to strike an appropriate balance between facilitating consistency and providing space for participants to express their own perspectives, a basic interview guide was developed and flexible and adaptive interview techniques employed (Rubin & Rubin, 1995; Campbell et al., 2002). While the interview guide is included in Appendix G, some general aspects of the process are noted here.

The interviews began with a review, discussion, and signing of the Participant Consent Form. Including informed consent in the interview process ensured that the participant and the researcher had a common understanding about the purpose of the research and its potential uses. A copy of the Participant Consent form is provided in Appendix H. In order to transition from the process of obtaining informed consent to the main questions, a group of introductory questions were asked by the researcher. This allowed the researcher and participant to become acquainted with one another and for the researcher to get background information about the interviewee and their work with regards to NEARBC. The main questions encouraged interviewees to comment on some key issues noted in the literature reviewed in chapter two and contextualized in chapter three. For example, participants were asked their perspectives on the meaning of the terms "knowledge transfer" and "knowledge translation;" they were also asked to comment on the practice of KT in Aboriginal health and its purpose. In addition to the main questions, secondary questions, or what McCracken (1988) calls "planned prompts," were used to give participants "an opportunity to consider and discuss phenomena that do not come readily to mind or in speech" (McCracken, 1988, p. 35). Because of the open-ended structure and approach of the interviews, however, each interview took a different course: the interview varied depending on how participants responded to the questions and, therefore, led the discussion.

4.2.3 Thematic Data Analysis

The analysis of data gained through research is an integral part of the research process. One method of data analysis is thematic analysis. As explained in the literature, "[t]hematic analysis is a method for identifying, analysing and reporting patterns (themes) within the data" (Braun & Clarke, 2006, p. 79). This method is useful for assessing data from qualitative interviews, as it provides the means to manage the complexity and diversity of the findings. Thematic analysis is also useful for research trainees:

> As thematic analysis does not require the detailed theoretical and technical knowledge of approaches, such as grounded theory and DA [discourse analysis], it can offer a more accessible form of analysis, particularly for those early in a qualitative research carrier (Braun & Clarke, 2006, p. 81).

For these reasons, thematic analysis was used in this research project.

According to by Braun and Clarke (2006), there are six phases or steps to conducting a thematic analysis. As their sixth phase discusses the production of the research report (i.e. this document), an adaptation of Braun and Clarke's (2006) five other phases are used here to help describe the steps taken in conducting this research project's thematic analysis. In doing this, however, it is important to note that the process of thematic analysis did not always progress in a linear manner: it was often necessary for the researcher to move fluidly between each phase as new data was collected and existing data was reviewed.

Step #1: Familiarization with the Data

When data is collected verbally and digitally recorded – as it was in this research project through the conduction and digital recording of open-ended interviews – familiarization with the data is primarily achieved through the process of transcription. While there are no strict guidelines with regards to the production of a transcript for thematic analyses, the literature suggests that: "at a minimum it requires a rigorous and thorough 'orthographic' transcript – a 'verbatim' account of all verbal (and sometimes nonverbal – eg, coughs) utterances" (Braun & Clarke, 2006, p. 88). This is because a verbatim transcription helps capture the depth of the responses provided by the participants, and the incorporation of non-verbal utterances provides context and meaning to the words – "[w]hat is not said is just as important as what is said" (McLellan, MacQueen, & Neidig, 2003, p. 66). For these very reasons, the interviews conducted for this study were transcribed verbatim and included both words and 'utterances.' Transcribing the interviews verbatim greatly enhanced the researcher's understanding of the data because it required her to engage with the intricacies of the data and to begin to think about what the data means. As the interviews were also digitally recorded, the researcher was able to refer back to the taped sessions when necessary. This was helpful for establishing the validity and completeness of the transcribed data (Mittman, 2001, p. 5).

Step #2: Generating Codes

The second phase of this type of analysis involves producing codes from the prepared and reviewed data. As described in the literature:

> Codes identify a feature of the data (semantic content or latent) that appears interesting to the analyst, and refer to 'the most basic element of the raw data or information that can be assessed in a meaningful way regarding the phenomenon' (Boyatzis, 1998, p. 63 quoted in Braun & Clarke, p. 88).

While there are computer software programs to assist researchers with coding, coding was conducted manually in this study. In addition to the limited cost (monetary) of coding manually, this method was seen as beneficial because it allowed the researcher to become even more immersed in the data. In doing this manually, the following advice about what to look for and what to code for was taken into account:

> (a) code for as many potential themes/patterns as possible (time permitting) – you never know what might be interesting later; (b) code extracts of data inclusively – ie, keep a little of the surrounding data if relevant, a common criticism of coding is that the context is lost (Bryman, 2001); and (c) remember that you can code individual extracts of data in as many different 'themes' as they fit into (Braun & Clarke, 2006, p. 89).

To document the coding process, the researcher highlighted segments of the data that 'appeared interesting' and labelled them with potential codes, as well as posted comments about potential patterns and themes, in the margins using Microsoft Word's "track changes" feature.

Step #3: Developing themes

When moving from the development of codes to themes, it is important to remember that: "[c]odes are different from units of analysis (your themes), which are (often) broader" (Braun & Clarke, 2006, p. 88). A more detailed definition of a theme is also useful for understanding this distinction: a theme is that which "captures something important about the data in relation to the research question and represents some level of *patterned*

response or meaning within the data set" (Braun & Clarke, 2006, p. 82, *emphasis* in original). This study's conceptual framework outlined some key themes related to the literature on KT and Aboriginal health, which are reflected in the questions asked of the participants. While these themes are also reflective of the themes developed through this project's thematic analysis, the analysis process was primarily data-driven, or inductive. This is because, while the themes reflect some key aspects of the questions asked of participants, they were labeled as themes because the participants continued to build on and return to these ideas, even as the interview progressed beyond the theme-related questions. Nevertheless, it is important to acknowledge the potential influence of the researcher's views on the creation and, later the interpretation, of the themes.

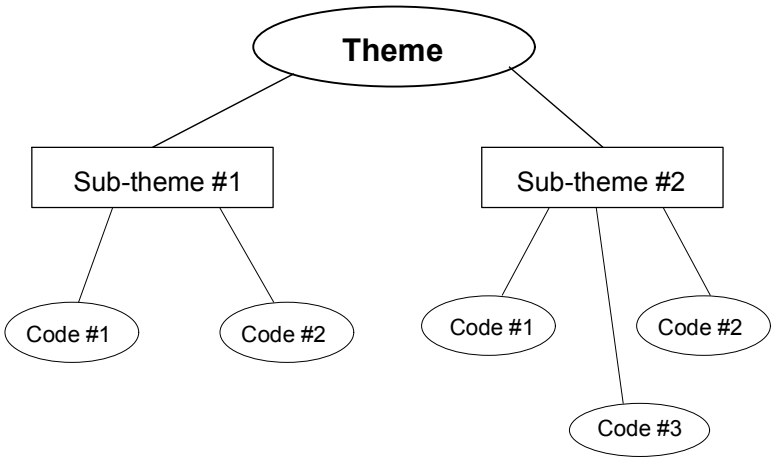
In general, searching for a theme requires convergent thinking, as the goals is to determine how things fit together (Mittman, 2001). As described by Braun and Clarke (2006), this includes:

> Sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes. Essentially you are starting to analyze your codes and consider how different codes may combine to form an overarching theme (Braun & Clarke, 2006, p. 89).

Because of the exploratory nature of the study, thematic areas tended to be very broad. The creation of several sub-themes under each of the overarching thematic areas enabled the complexity and diversity of the data to be coded and organized in a logical and understandable way (Braun & Clarke, 2006). Several different "tools" were used to help organize the data, as well as visualize and conceptualize the development of theme areas.

One tool that can be used is thematic mapping (Braun & Clarke, 2006). An example of a thematic map is provided below.

Figure 6: Thematic Map



While thematic maps help organize the coding of the data, it is also important to keep track of the excerpts from the data that are being coded. In this project, an excel spreadsheet was used to categorize the data. This organization tool allowed the researcher to link highlighted passages to the developing codes by listing the codes, the pseudonym of the participant, and the page number on which the passage could be found in a single space. As a result, the researcher found that this was a helpful way to be able to manage the large amount of information gathered from the interviews and access it later.

Step #4: Reviewing the thematic map

According to Patton (1990), themes should have internal homogeneity and external heterogeneity. This means that while themes should fit well together, there should still be a clear distinction between them. Although at times it may seem obvious that a pattern is emerging, it is important to continually test these perceived links. This can be done by

continually comparing codes within and across the interview transcripts (Aronson, 1994). Upon review, themes may need to be refined, changed, or separated in order to ensure that the coded data under each theme reflects a coherent pattern and that the individual themes combine to reflect the broader story that is emerging from the accumulation of the participants' perspectives (Braun & Clarke, 2006). In addition to helping organize the data, the development of thematic maps, spreadsheets, and tables are useful in this regard: they help the researcher refine the "the relationship between codes, between themes, and between different levels of themes (eg, main overarching themes and sub-themes within them)" (Braun & Clarke, 2006, p. 89-90).

Step #5: Defining and naming themes

Consider how Braun and Clarke (2006) describe the fifth phase of their understanding of thematic analysis:

> At this point, you then define and further refine the themes you will present for your analysis, and analyze the data within them. By 'define and refine', we mean identifying the 'essence' of what each theme is about (as well as the themes overall), and determining what aspect of the data each theme captures. It is important to not to try and get the theme to do too much for to be too diverse and complex (p. 92).

This phase forms the basis of the presentation of the findings of the research study. The presentation of the findings in chapter five, therefore, is structure by the four overarching themes drawn from the interview data – (1) the definitional debate, (2) "Aboriginal" knowledge translation, (3) "Doing" KT, and (4) KT roles. In addition to basic descriptions of the themes and sub-themes, a map of each theme area, as well as a table documenting examples of data extracts and codes, are provided in this chapter. These

features are intended to complement the presentation of the results by providing the reader with a more visual understanding of the coding process and the depth of the results.

4.2.4 KT of a KT Project

Because of this project's focus on knowledge translation, the ways in which the knowledge it gains will be translated to others has been carefully thought out. Its design as an exploratory research project has also highlighted the importance of dissemination: like other exploratory projects, it hopes to stimulate more research in related areas that can build on its findings about the largely unknown topic of Aboriginal KT. Some of the key ways in which the results from this research project will disseminated, include: using the channels of the network (NEARBC) – both to inform participants of the results and to engage the rest of the network with the study; through presentations at academic conferences and community workshops; publishing the results in academic and non-academic journals, newsletters, and at events with relevant stakeholders. It is hoped that through these channels, all relevant communities – Aboriginal communities, the research community, the policy community, and practice communities – will be able to be engaged and involved in a discussion of the results.

CHAPTER FIVE: FINDINGS

The primary purpose of this chapter is to present the findings of semi-structured qualitative interviews conducted with NEARBC staff, Oversight Committee members, and students. As discussed above, the presentation of the findings will be structured by the four main themes developed through analysis of the data. In order for the findings to have greater meaning, the composition of the study sample and characteristics of the participants, will be reviewed first.

5.1 Study Sample

As explained in the previous section, the current NEARBC Oversight Committee and NEARBC staff and students were targeted for this study. Ten (10) people were interviewed out of the target population of nineteen (19). Due to constraints of time and distance, four (4) out of the ten (10) interviews were conducted over the phone.[12] While an hour was budgeted for each interview, the time required for each interview varied: the shortest interview was ~45 minutes and the longest interview was ~1 hour and 30 minutes.

[12] Where possible, face-to-face interviews were arranged and scheduled in Victoria area and/or to correspond with NEARBC meetings and workshops (i.e. when the PI and participants were in the same region of the province). In all cases, the researcher assumed the burden of any additional travel. Phone interviews were offered if travel was too difficult to arrange or if the interviews could only be arranged on short notice. Conducting interviews by phone was not a major detriment to the collection of data, as the questions were easily conveyed and participants were comfortable with the topic and the researcher (in many instances, they had met and agreed to participating in the research at NEARBC meetings or were aware of the researcher from other Aboriginal health research events). However, it cannot be ignored that body language and other gestures were lost, which may have provided additional information about the subject matter or the perspective of the interviewee.

5.1.1 Saturation

When discussing sample sizes of research studies, it is also important to discuss saturation. Saturation is described in the literature as "the point at which no new information or themes are observed in the data" (Guest, Arwen, & Johnson, 2006). It is important to reach saturation because it provides credibility to the completeness of the data. In conceptualizing this research project, it was thought that ten (10) to twelve (12) interviews would be required to reach saturation. During the study, it became evident after about the eighth interview that saturation was being reached. This was because while no new categories were being developed, the categories that had already been created were still being fleshed out. By the time the tenth interview was completed, it is clear that saturation had been reached: no new information was being drawn out of the data. The process of reaching saturation in this study was similar to that in a study conducted by Guest, Arwen, & Johnson (2006), who "found that saturation occurred within the first twelve interviews, although basic elements for meta-themes were present as early as six interviews" (p. 59).

5.1.2 Characteristics of Participants

Because of the relatively small and closely-knit nature of the target population, anonymity and confidentiality were viewed as being particularly important for this research project. This is why anonymity and confidentiality of the participants was carefully outlined in the Participant Consent Form (see Appendix H). Through the process of informed consent, it was also agreed that no names or identifying information

would be used in dissemination materials. In an effort to balance the need to ensure anonymity and confidentiality with the importance of providing the reader with more detailed information about the composition of the sample, a generic overview of the characteristics of participants is provided below.

Three characteristics of this study's participants will be addressed: (1) the distribution of the sample according to gender; (2) the primary affiliation of the participants; and (3) their geographic location. With regards to the first area, it is interesting to note that while the population was not sampled according to gender, the sample was evenly distributed between the genders. In further analyzing the composition of the sample, participants were categorized according to their affiliation with one of the following groups: academia, research administration, government, or community organizations.[13] While this categorization showed that there was representation from all groups, the majority of participants were affiliated with academia. The category of research administration also comprised a large percentage of the participants. Large participation from these two groups was expected, as it are these two groups that make up the majority of the target population. Finally, reviewing the characteristics of the participants revealed that participants were not drawn from all three of NEARBC's nodes. Variability with regards to the response rates and availability of the target population resulted in participation

[13] While largely self-explanatory, the inclusion criteria used to develop each category is noted here for clarification sake. The category of "academia" included university-based researchers, academics, and trainees/students. "Research administration" included individuals involved in research but primarily connected to the research community through their work as research managers, coordinators, or administrations of research programs. The "government" category included individuals working for the government in a policy-making or decision-making role. Finally, the category of "community organization" included individuals working for organizations involved in research at the community level.

being drawn primarily from one node and in no participants being drawn from one of the other nodes.

It is important to further note that while this sample included individuals from, working for, or working with Aboriginal communities, they participated in the research as NEARBC associates. As such, they were not representing a specific community or band; rather they were representing and/or speaking to their perspectives, goals, and ideas of knowledge translation from their position within NEARBC. This is why approval was sought from NEARBC's Oversight Committee and not from band councils or other Aboriginal community organizations. A copy of a letter of permission granted by NEARBC's Oversight Committee can be found in Appendix D.

5.2 A Thematic Presentation of the Findings

In moving from a basic discussion of how the interviews were conducted and whom they were conducted with, this section will summarize the results according to the four overarching themes – (1) The Definitional Debate, (2) 'Aboriginal' KT, (3) 'Doing' KT, and (4) KT Roles – developed through the thematic analysis of data collected from the interviews. As described in section 4.2.3, each theme was created by coding and coalescing of data into themes and sub-themes. As was also described in this section, different tools can be used to help organize, visualize, and explain the coding processes. One particular tool discussed was thematic mapping. Finalized versions of these thematic maps are included at the beginning of each section to help present the themes, sub-

themes, and codes. Further, a table documenting examples of the coding of data extracts for each sub-theme is included to provide the reader with concrete examples of how the data analysis was conducted. The general discussion provided under each theme is not broken down according to the sub-themes, so as to allow for a more fluid description of the 'essence' of the themes as described by the participants. This is also intended to reflect the natural way in which participants discussed the thematic areas. As discussed in the previous chapter (see sub-section 4.2.3), the thematic areas were created in response to participants continued discussion and elaboration of the topics they represent. Thus, the topics were continually circled back to and reiterated. The discussion provided under each theme is representative of this, as it reviews the general 'train of thought' conveyed by the participants.

Theme #1: The Definitional Debate

In this project's literature review, the terms knowledge transfer, translation, and exchange were discussed. During the interviews, however, participants discussed five terms. They were: knowledge transfer, knowledge translation, knowledge exchange, knowledge mobilization, and dissemination. When discussing these terms, participants explained what they understood the terms to mean, what terms they preferred, and why. The various terms used and participants' views of them are summarized in the thematic map and table below.

Figure 7: Definitional Debate Thematic Map

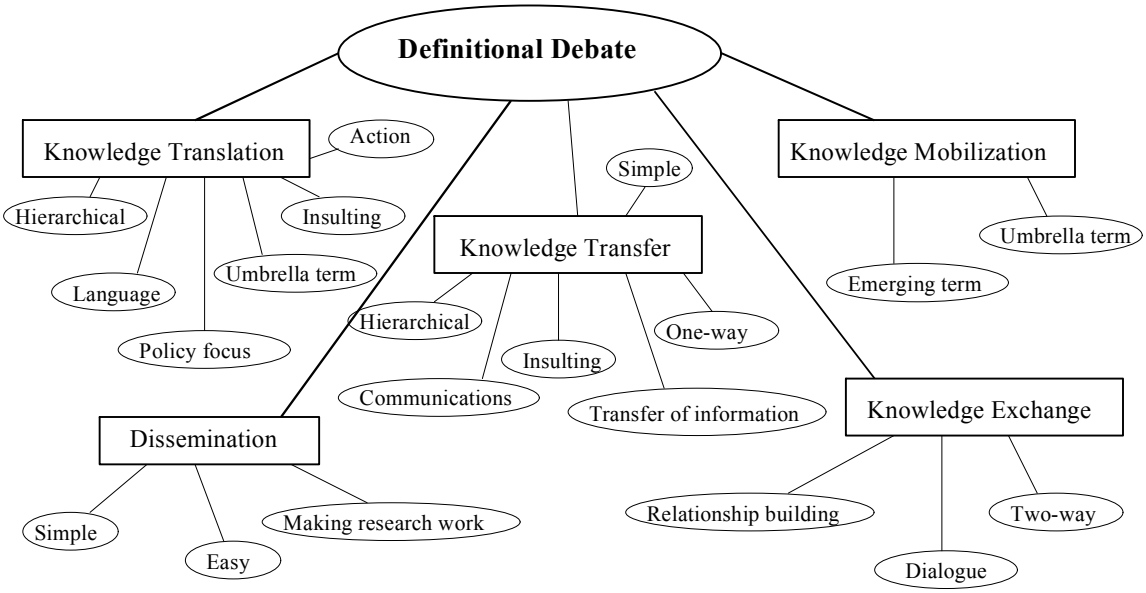


Table 5: Definitional Debate Sub-themes and Example Codes

Sub-Themes	Examples of Data Extracts	Coded for
Knowledge Transfer	1. "I think the wording of it is pretty specific. I mean, it is transfer of knowledge. So, basically that is what I think of it as." 2. "Knowledge transfer is essentially to me just communication. You can't transfer anything without talking to somebody, or sending it to somebody, or writing to somebody, you know." 3. "Knowledge transfer to me is kind of insulting" 4. "I don't like the term knowledge transfer because it implies a one-way street. Or it implies a kind of hierarchical, a kind of trickle done knowledge from on high to somebody who is below or beneath. And I think that is just a kind of wrong way to look at it."	1. Transfer of information; simple 2. Communication 3. Insulting 4. Hierarchical
Knowledge Translation	1. "Knowledge translation is more, to me, that sort of talk more about change in policy." 2. "Knowledge translation it seems to me is that you are actually putting it to work." 3. "So, knowledge transfer to me is kind of insulting. Ah, knowledge translation, probably along the same lines. Its an insult to the intelligence of everyone concerned…. all of the parties we are involved with." 4. "And even knowledge translation implies two kind of completely separate, what, languages, groups, and entities, whatever." 5. "[Would you characterize knowledge translation as a more umbrella term or as a more overarching?]…I	1. Policy focus 2. Action 3. Insulting 4. Language; hierarchical 5. Umbrella term

	would…. [And knowledge transfer?]…You know, I think it could be put under it, because it is like the first step."	
Knowledge Mobilization	1. "They call it knowledge translation, knowledge transfer, knowledge mobilization…everybody's looking for a term that is laudable to everyone." 2. "I think that knowledge mobilization is probably the umbrella descriptive and under that you would probably have knowledge transfer, knowledge translation, and knowledge exchange."	1. Emerging term 2. Umbrella term
Knowledge Exchange	1. "I much prefer knowledge exchange because it, umm, implies more of a two-way street. A give and take." 2. "I mean, [if] you can have knowledge exchange, you are creating a dialogue"	1. Two-way; relationship building 2. Dialogue
Dissemination	1. "Dissemination, it is really about turning knowledge into application. That is taking the information and making it work" 2. "Dissemination at the end of the project is, ummm, easier in a way. Cause you are done, you report"	1. Making research work 2. Simple; easy

As seen in the chart above, participants' perspectives of the different terms are quite diverse. What this chart does not show, however, is that there are also some key similarities in the description and frequency of use of some of the terms. For instance, knowledge transfer and knowledge translation were the most commonly used. While knowledge transfer was commonly used, some participants described it as insulting. As one participant explained, "it [knowledge transfer] implies a kind of hierarchical, a kind of trickle down knowledge from on high to somebody who is below or beneath." In discussing this further, the same participant explained how the implicit vision of knowledge transfer as a one-way street ignores the need for collaboration and consultation in order for real progress to be made in the field of Aboriginal health research. While some participants also described knowledge translation as insulting, it was generally viewed as a more appropriate and acceptable term than knowledge transfer. A major challenge with knowledge translation was that the term itself was seen as being

more ambiguous than knowledge transfer (which was thought to simply mean the transfer of information). A unique aspect of the term 'knowledge translation' was that it was used by some (but not all) participants to describe KT that occurs between researchers and policy-makers; this was in contrast to the use of the other terms to describe KT that occurs between researchers and Aboriginal communities. With regards to the other terms, knowledge exchange was thought to explain only some aspects of KT, such as relationship building, and only a few participants discussed the terms knowledge mobilization and dissemination.

Despite personal preferences for different terms and strong ideas about their related definitions, most participants relayed a sense of confusion about the growing KT debate. As one participant reflected: "Just defining things and understanding what you are talking about is sort of really, really hard." Because of this, participants explained, many people have been drawn to develop their own nuanced definition of the most common terms to, as one participant said, make them "laudable to everyone." Instead of creating new terms, however, several participants discussed how pairing terms or using multiple terms was a useful way to manage the complexity of KT. In taking on this strategy, many participants found it useful to think of the terms as being positioned in a hierarchy or falling under one overarching term. As a result, different terms could be used to describe different stages and/or aspects of the process.

One participant drew this concept map:

> I could draw something out for you where you would have the umbrella idea – knowledge mobilization – and then underneath the umbrella you would have knowledge translation, transfer, and exchange and then under that it would have to be contextual how that worked.

Knowledge translation was also described as an umbrella term. Both knowledge mobilization and knowledge translation, as umbrella terms, encompassed the terms knowledge transfer, dissemination and exchange.

In addition to using multiple terms to label and describe the various aspects of KT, many participants noted that the use of multiple terms is useful for contextualizing discussions: "So I think it has to be defined in each, kind of, within each context; within each meeting of people that are involved in that definition." Without a discussion of the terms used and their meaning, there is greater potential for misunderstanding. In order to develop appropriate definitions in an Aboriginal health context, participants repeatedly explained the importance of incorporating community perspectives and engaging Aboriginal Peoples in KT discussions:

> Because who are we [researchers and academics] to say…. these are the terms you use. This is where it is useful to have people at the community to participate on an ongoing basis and to have an ongoing dialogue – always checking things out and taking time.

Consequently, participants felt that mutually developing terms that have meaning for both researchers and Aboriginal Peoples involved in the research was seen as the most appropriate way to choose a KT term and to define its meaning.

Theme #2: "Aboriginal" Knowledge Translation

Discussions about what makes knowledge translation "Aboriginal" knowledge translation represented an important theme of the findings. Within this broad category, participants discussed the history of Aboriginal KT, the elements of KT, its purpose, and potential barriers to doing KT in an Aboriginal health research context. The perspectives of participants in these sub-themes are summarized in the figure and table below, and discussed in the body of the section.

Figure 8: "Aboriginal" KT Thematic Map

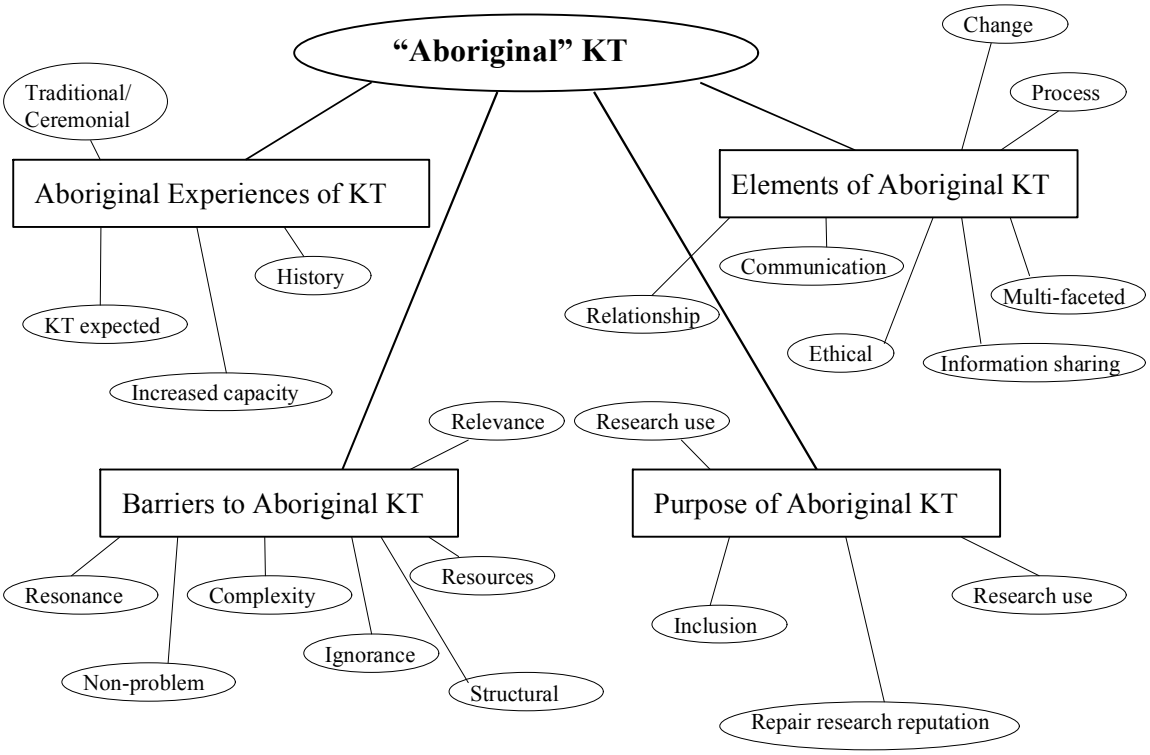


Table 6: "Aboriginal" KT Sub-themes and Example Codes

Sub-Themes	Examples of Data Extracts	Coded for
Aboriginal Experiences in KT	1. "Aboriginal groups are really interested in knowledge translation"	1. KT expected
	2. "Knowledge translation has been occurring in Aboriginal communities for years. Whether it is story telling, or elders, or tattoos, or totems, you know, that kind of thing"	2. History; traditional/ ceremonial
	3. "Communities have passed on knowledge, you know, and used knowledge from time out of mind, you know… storytelling or dancing; through different protocols or ceremony"	3. History; traditional/ ceremonial
	4. "There is a huge amounts of research being done in all areas and moving away from the idea that Aboriginal Peoples are the natural subjects but they are…they are to be full participants"	4. Increased capacity
Elements of Aboriginal KT	1. "I think it is lots of different things. I think knowledge translation happens in lots of different ways"	1. Multifaceted
	2. "Definitely communication. Being accountable. Being open to listening to other people. Being open to changing…being flexible, I guess, is another way to look at it. It is hard to say what key elements of knowledge translation are. Because, to me, I often think of it as a process…"	2. Process
	3. "That is what knowledge translation is about – increasing our mutual understanding of something and communicating well"	3. Communication; relationships
	4. "It's a dance. It is always following some very basics in human ethics, I think. And that is being really caring, really respectful and able to share…ummm…you know, with the community…and that goes both ways"	4. Ethical; information sharing
Purpose of Aboriginal KT	1. "I think the point of that is trying to bring research to Aboriginal communities, who may not have a positive view on research as something that may be positive. And I think knowledge translation or transfer as an integral part of that"	1. Repair research reputation; inclusion
	2. "Because I think that research, it is important to create the knowledge, but it is what's done with that knowledge that is really important at the end of the day"	2. Research use
Barriers to Aboriginal KT	1. "I think right at the top level is the complexity of the issues around Aboriginal health"	1. Complexity
	2. "Policy makers have heard, you know, statistics about the health of Aboriginal Peoples, the disparate health conditions… for so long that it is sort of become like a blocked issue"	2. Non-problem; ignorance
	3. "I mean you have funding institutions too and they largely control how research is done…based on their funding structures for people. It's, it's a challenge, but it is a challenge that needs to be addressed within institutions and within funding institutions as well"	3. Structural
	4. "I think there are people at the community level – maybe they have gone to university or they have read some	4. Resonance; relevance

	documents where it has come up – but actually I have never heard it in any meeting I went to or any discussion about research that people really use the term yet. So, I think it is still a very foreign phrase in most communities"	

As noted at the end of the "definitional debate" section, the incorporation of Aboriginal Peoples and Indigenous perspective in discussions and conceptualizations of KT is what makes knowledge translation "Aboriginal" knowledge translation. A lack of general awareness (or perhaps disregard of) the historical use of, and therefore expertise in KT practices in and by Aboriginal communities was provided as an example of how the KT discourse has been lacking this "Aboriginal" label. As examples, participants explained the different ways that knowledge has been traditionally passed on from generation to generation.

> Communities have passed on knowledge, you know, and used knowledge from time out of mind, you know… storytelling or dancing; through different protocols or ceremony.

> Knowledge translation has been occurring in Aboriginal communities for years. Whether it is story telling, or elders, or tattoos, or totems, you know, that kind of thing.

The need to incorporate Indigenous Peoples in research was not only linked to the importance of integrating the rich history of KT in Aboriginal communities; it was also linked to what participants saw as the purpose of KT. This is because the majority of participants explained that the purpose of KT is to reframe research in Aboriginal communities. Or, as one participant put it: "to repair the reputation of research in communities." This is because the generation of knowledge is often seen as irrelevant to the Aboriginal community or communities being studied by Western researchers:

> We might generate knowledge but it will go nowhere because it is simply just not seen as relevant by people in community. And, you know, there's lots of reasons for that. One, is that that style of research is just not seen as relevant and, two, there is a whole sort of history behind it that makes people not only see it as irrelevant but makes people avoid it. It is just a bad, bad thing. So, you know, if you are going to generate knowledge that is going to have any hope of doing anybody any good, you are going to have to build in the hooks and the features to it that make it…make people see that it is relevant, for one thing, to their worldview, to their own community, to their lived experience. And, two, make it, umm, make it somehow obviously actionable…there is something we can do now that we know this.

Thus, finding a way to balance the generation of knowledge gained from research with the impact of research is central to understanding KT in Aboriginal health: "you can't just be rushing out and creating more and more information if it is not being acted on and not making a difference." Framing this as an ethical issue, one participant explained that: "at the end of the day, [if] there is no change at the community level, I think that calls into question how ethical that research project was or is." In fact, it was thought that this ethical piece is what has been missing from KT in the past:

> Getting it [research] out to the communities and sharing…that is what is not happening in the communities and that is why communities don't want researchers around – people do the research and then they never hear back.

Including Aboriginal Peoples in all stages of the research process was considered essential to overcome such a history. As participants were quick to explain, however, there is a difference between saying that Aboriginal Peoples are included and actually including the community or community members in research. For one participant, full inclusion means the Aboriginal community is "very much involved in even shaping what the question is, what the priorities are…how it is going to be done."

The incorporation of Aboriginal communities in research was the foundation for what participants described as the multi-faceted elements of knowledge translation. Some examples of the elements of KT provided by participants included: knowledge sharing, relationship building, community development, capacity building, communication, information sharing, and mutual learning. Like the terms and definitions cited under the previous theme, these aspects and the concept of knowledge translation in general was described as that which occurs or should occur between researchers and Aboriginal Peoples.

Despite the perceived desire of many Aboriginal communities to engage in KT, time and money were discussed as a barrier to Aboriginal participation in research:

> [There are] lots of issues and limited resources and so people are, they are interested, they want to engage in something that is going to give them relief of whatever the issue happens to be. At the same time, they are so very busy and research is not a crisis.

Without time and resources to devote to being involved in research and knowledge translation, the capacity of the community remains limited. A lack of continued investment from the research community was also seen as a potential deterrent for the investment of Aboriginal communities in research:

> What tends to happen is that once that research is over than the research team or parts of that team will quickly begin thinking of next steps in terms of further research and/or taking that research question and modifying with another group of people or whatever…but just continuing on and trying to access more research money to try and do more research. There is nobody left to kind of lead and take that original research that was done to take it to its logical conclusion.

Looking at this problem from the side of the researcher, it was noted that the time and resources provided to researchers to conduct sustainable and successful Aboriginal health research are lacking:

> It is hard to do in a funding world that picked the magic number three…that three years is sort of the time it takes to do a research project. Doesn't matter what it is; it is going to take three years. I don't know where that number came from. Well, it's either three or five, three or five, but it is mostly three. But because it takes so long to do work in Aboriginal communities, it kind of puts a lot of people behind the eight ball before they even get started.

Just as granting guidelines and structures were a locus for frustration for many participants; the granting structure was also viewed as a tool for change, as the KT section of grant applications may begin to carry greater wait. This is because the KT debate encourages:

> The committee that is adjudicating is going to be saying, does that seem like a reasonable or good way to go about it, so more resources end up going to those kinds of activities. And when that happens, peoples end up getting better at doing them.… and hopefully whole thing eventually ratchet itself forward.

Overall, however, participants were more hesitant to offer such an optimistic prediction with regards to the future growth and development of KT.

Theme #3: "Doing" KT

In moving from discussions about what is unique about knowledge translation in Aboriginal health, participants discussed the operationalization of this idea in practice. As such, they discussed how KT is facilitated, structured, supported, and enabled. For example, how KT is or can be built into a research agenda or the work of a research team. Difficulties associated with the evaluation of KT were also discussed.

Figure 9: "Doing" KT Thematic Map

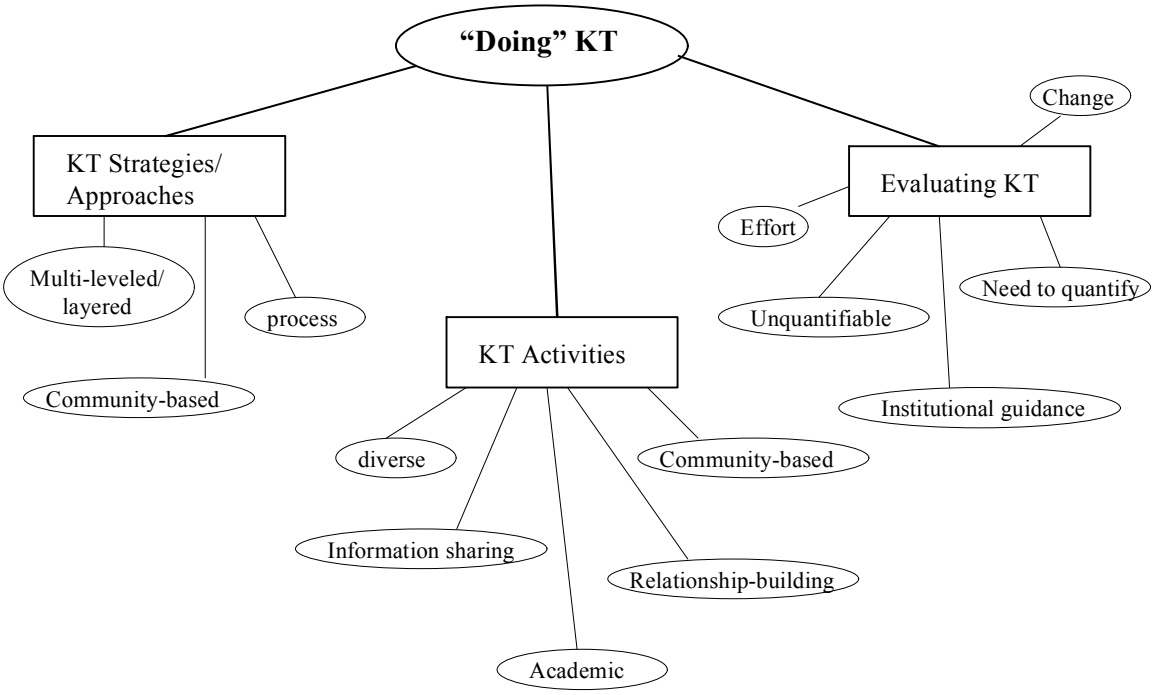


Table 7: "Doing" KT Sub-themes and Example Codes

Sub-Themes	Examples of Data Extracts	Coded for
KT Strategies/Approaches	1. "I absolutely am passionate about listening to the user community first. Because that gives you some framework from which to build an effective dissemination strategy"	1. Community-based
	2. "I could draw something out for you where you would have the umbrella idea – knowledge mobilization – and then underneath the umbrella you would have knowledge translation, transfer, and exchange and then under that it would have to be contextual how that worked, whether it was the community sharing information with a researcher, for example – they are transferring information about the health of their community to the research. The researcher is then looking at it through his framework, through his context, whatever that may be. Umm…and then translating that into something that he or she understands and then giving the information tangible benefits and then giving that information back to the community in a framework that they can use to meet the needs of the community."	2. Multi-leveled/layered
	3. "I think it is good to have it more integrated	3. Process

	throughout the whole process." 4. "Knowledge translation, it needs to take place at a number of different levels."	4. Multi-leveled/layered
KT Activities	1. "I just did an afternoon workshop …so, in some ways, that is a knowledge translation activity…. But, so is creating a colourful little brochure that you are going to put in health clinics across the province. And so is running a town hall meeting or an all day research workshop." 2. "It depends on…you might, for example, present the results of a research project in detail to a group of service workers, you would present a condense form and some key points to decision-makers, and more detail to your policy makers" 3. "Storytelling or dancing; through different protocols or ceremony" 4. "Putting that in a reader-friendly, community-friendly, ummm, pamphlet or something - just disseminating that information… And so that is a very basic way, I think, of participating in knowledge translation"	1. Diverse; relationship building; information sharing 2. Diverse; information sharing; academic 3. Community-based 4. Academic; information sharing
Evaluating KT	1. "If you can show behaviour change that is really important" 2. "When you are working with a community, it is good to show that you are making an effort and being involved in the process of sharing the knowledge, but it is very hard to identify something like that other than to say, you know, well…for this workshop, you know, just basically say, you know it is really hard to specifically identify…" 3. "Ummm…maybe institutions like Michael Smith will have to adapt about how they define their criteria or little tick-boxes about what they want to hear"	1. Change; quantify 2. Effort; unquantifiable 3. Institutional guidance

Discussions about how to approach KT drew from participants' emphasis on the importance of incorporating Aboriginal Peoples in research under the theme of "Aboriginal KT." The relationship between researchers and Aboriginal Peoples is an important topic in Aboriginal KT because it is related to an underlying tension between the Western Scientific worldview and Indigenous ways of knowing in the field of Aboriginal health research. As one participant explained,

> There is conflict because there are different worldviews that are trying to look at the same thing. And if you stand strongly in their camp you will think – you've missed the point. And overcoming those kind of things are the big challenge. The approach and the methodologies are not problematic, but the clash of the worldviews behind them already is.

The challenge for Aboriginal health researchers, therefore, is to "try and understand different worldviews." Understanding the different worldviews, however, requires partnership and understanding between Aboriginal peoples and health researchers.

In addition to enabling the use of both Aboriginal and Western ways of knowing in Aboriginal health research projects, the development of researcher-community relationships was thought to make knowledge translation much easier:

> Think, when you can partner with communities to work on issues that are important to them and generate new knowledge about it then there really doesn't need to be any transfer, exchange, or translation because it is ideally that you should be working together to generate that knowledge.

Thus, when partnerships are true and robust, knowledge translation can be integrated within the research process. Embedding KT within the research process was seen as positive because it facilitates the inclusion of Aboriginal Peoples in research and encourages the development of partnerships. In order to further ensure the success of KT and the relevancy of research, one participant added that we need to ask Aboriginal communities: "What do you think the dissemination should look like? What would be the most practical?" Creating space for discussion about KT is considered so important because the idea of KT is new and "people just need to learn it; it just needs to be talked about." This is why, at a process level, dialogue is considered to be a KT activity.

One way that NEARBC and other research-based organizations and institutions have tried to facilitate dialogue and learning is through the creation of workshops. One participant discussed the benefit they perceived such workshops to have: "they gave me an effective understanding of that…I mean, I wouldn't have known otherwise, so yeah, I think they are [useful]…. and I think communities responded in that they liked discussing these issues." In addition to workshops, participants provided a number of different examples of KT activities. This list included, but was not limited to: conference presentations, newspaper articles, town hall meetings, one-on-one discussions, policy briefs, and journal articles.

Because of difficulties around the definition and labeling of KT, KT is not easily reported or evaluated. In an effort to think of KT from an evaluation framework, several participants attempted to explain what KT looks like or how they could explain that KT is occurring or that one is 'doing' KT. One participant explained that:

> KT is occurring when you are sharing information…electronically, or the sharing of printed materials, or sharing of information verbally. Or when you see a gathering together and it leads off to other results. Action results? You see a coming together and then you see a spin-off. You actually see it occurring or you witness it occurring. Or when you connect people and the ideas gel.

Others were not quite ready or able to put it into words. Overall, the line between what is KT and what is not KT was thought to be quite fuzzy. In discussing the reporting that NEARBC has to do for their funders – the Michael Smith Foundation of Health Research – one participant explained what was counted as knowledge translation in NEARBC's reports:

> We put website stuff in there. We put our evaluation consultants in there. We put the database, our members database, we put it in KT because we are providing information to the members about other members, well, you saw it, what key words and what their research interests are. Part of that under there, the website, which is currently, or constantly updated, that went under KT.

Because of the considerable grey area with regards to KT, it was suggested that perhaps the onus lies with funding institutions and other high-level organizations to define the evaluation of KT:

> Maybe institutions like Michael Smith will have to adapt about how they define their criteria or little tick-boxes about what they want to hear from the nodes and I know that that's a tricky subject because we always want something concrete to say they did this and we did that, but sometimes it isn't that easy, it's a little bit more fluid than just saying we just had a workshop, which is great and that's great way to say you did something, but can you say I talked to so-and-so and we talked about this and you make connections – those are the types of things that, to me, are about knowledge translation and they're building relationships, which is a big part of it that don't…that are hard to define in an institutional context.

Overall, participants suggested that developing a more concrete evaluation structure for KT would be important for the future.

Theme #4: KT Roles

In addition to grappling with the components and structure of KT, participants offered their perspectives on who has a responsibility for knowledge translation and its various aspects. Because NEARBC was the case within which KT was explored, participants discussed the roles that NEARBC, and individuals involved with the networks, does or should play with regards to KT. These are framed by the figure and table below, and fleshed out in the discussion following.

Figure 10: KT Roles Thematic Map

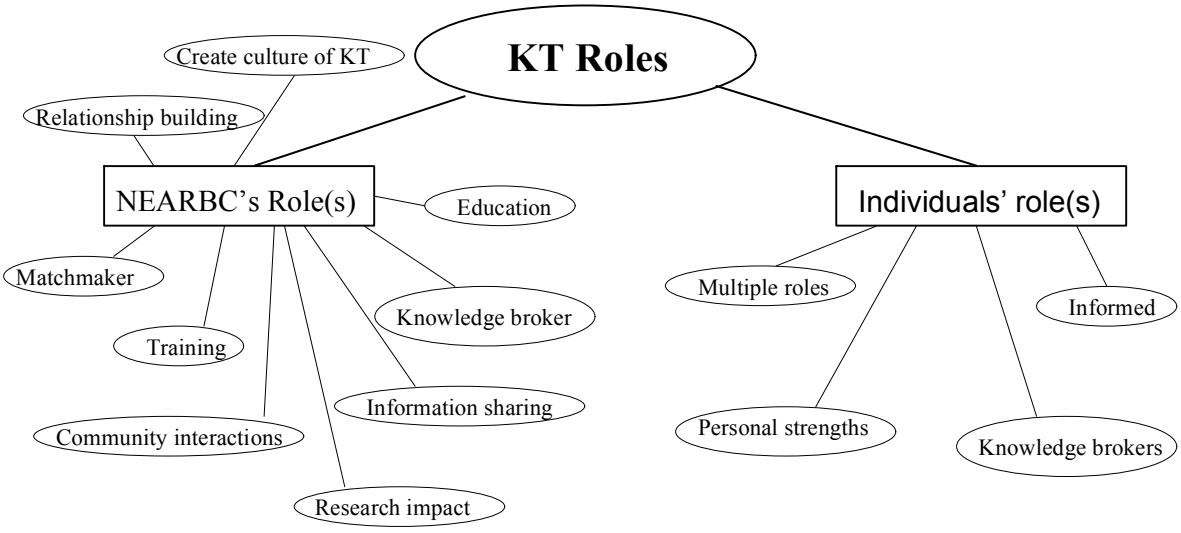


Table 8: KT Roles Sub-themes and Example Codes

Sub-Themes	Examples of Data Extracts	Coded for
NEARBC Role (Network/ Institutional/ Organizational Level)	1. "I see NEARBC as helping out students by creating these environments where they can learn about these different principles of research in working with communities and see if that is something they want to pursue"	1. Education; training; community interactions
	2. "We do transfer of knowledge all the time by sharing information"	2. Information sharing
	3. "Creating a culture for that knowledge transfer to take place and what that is"	3. Create culture of KT
	4. "We're here [NEARBC and its nodes], in our role as knowledge brokers, to give that knowledge to people to improve our society on many levels"	4. Knowledge broker; research impact
	5. "Our role [NEARBC and its nodes] within that is as a matchmaker between communities and researchers"	5. Knowledge broker; matchmaker; community interactions
Individuals' role in KT (staff, members, and partners)	1. "In dissemination what you need are really well informed and articulate brokers. What you really don't want are badly informed brokers!"	1. Knowledge brokers; informed
	2. "I mean, I might be in a good position to do knowledge translation with my peers here [Identifying information removed for confidentiality/privacy reasons] and, you know, the node coordinators may be in a really good position to do it with the	2. Multiple roles; personal strengths

	community"	

While participants highlighted that KT was an integral part of the work and long-term vision of NEARBC, they were also eager to discuss the need for NEARBC to take a greater role in enabling or facilitating knowledge translation. One particular way that this was discussed was through the need for knowledge translation guidelines. The potential benefit of having KT guidelines was made known by several participants. As one participant explained:

> If you can come up with guidelines on knowledge translation and a framework that organizations [can use], whether they are community-based, research, in universities, ethics boards at universities, or health authorities, I think it would be very, very helpful.

The question of whether NEARBC should be the creator of the guidelines or if they would merely take on an implementation or monitoring role was left unanswered. Some participants thought that the development of KT guidelines would be a productive and useful enterprise for NEARBC; others were more hesitant to place this work on NEARBC, as it might push the network beyond its present mandate and/or inhibit its ability to meet the rest of its mandate. Further, one has to be careful to not think that NEARBC has to do it all:

> I mean I think we can enable [KT], but I think after that it is not up to us. I mean, people need to take that on themselves. I think enable is a perfect word because that is…when people ask me what our network does, that is what I say: "we enable research." I think the biggest way we can transfer certain knowledge to them is through workshops or conferences. And at workshops you are giving them a particular skill set – whether it's grantscrafting or you are educating them on ethics. But at the conferences you are more sharing, like, the research, and posters and mentoring and things like that.

Other participants shared this perspective, as they highlighted the need to build on NEARBC's existing work with regards to education, information sharing, and

communication. By enhancing aspects of NEARBC's current KT focus, it was thought that great learning could continue happen through the network at the least expense.

Enhancing the role that NEARBC plays as an intermediary between Aboriginal communities and academia was also noted. Within NEARBC, the node leaders and coordinators have largely assumed this job: "the nodes' job is to go and create those relationships with communities in your own geographic region." In assuming this role, however, it was believed that the node leaders and node coordinators cannot create change or make in-roads into the communities on their own: this is because their primary role is to act as a conduit for researchers and communities to meet on more common ground. As some participants described, the facilitation of community relationships can be take root at an individual level. As one participant put it:

> I feel very much a presence of the community in my work and an accountability to them…or to individual people. To Aboriginal People. Just to Aboriginal People in general. I really do feel a strong sense of accountability and I try to honour that in my work. And in that way, I think the way I view knowledge translation might be a little different.

Agreeing with this statement, other participants discussed the importance of inspiring others to consider the accountability of their work and to take care to develop respectful and trusting relationships with the Aboriginal communities. This was thought to be especially important e for the research community:

> If more communities are less suspicious of researchers and more research can look around and see examples their colleagues doing work that's productive, beneficial to the colleague, beneficial to the community then it should just kind of grow.

Participants also discussed creating potential in-roads into Aboriginal communities by engaging with key Aboriginal community members. For example, the role that Elders and

Chiefs can play in brokering between the two communities in communities was noted. Key community members were seen as an important resource for researchers, because "individuals at the band level that have tremendous capacity to disseminate if we [researchers] give them…. the right information."

While researchers are beginning to acknowledge the community as an important resource for research, participants suggested that researchers should also think of themselves as a resource for communities. The logic of this argument is that if research is presented as a resource for the community, it is viewed more positively. This is because the wording and approach empowers communities to choose to use the research, and the skills of researchers, to do things that are important for their community. While it was thought that NEARBC's nodes were slowly translating this message and rebuilding trust between researchers and Aboriginal communities through its workshops and collaborative partnerships, this will likely take time to take root.

Finally, although some participants suggested that NEARBC should take a stronger role in engaging with policy-makers and pushing these changes, it was understood that since the network is in its growth phase, its capacity and resources to take on these higher-level roles remains limited. However, the goal to have someone in a high level position to network with policy-makers was discussed. The potential benefit of having "a sub-committee of NEARBC that just deals with knowledge dissemination and brings it

forward as a very important matter" was also thought to be something the Network could look towards in the future.

CHAPTER SIX: DISCUSSION

In moving from a review to a discussion of the findings, the challenge is for the researcher to "tell the complicated story of your data in a way which convinces the reader of the merit and validity of your analysis" (Braun & Clarke, 2006, p. 93). This is because: "[the] coherence of ideas rests with the analyst who has rigorously studied how different ideas or components fit together in a meaningful way when linked together" (Leininger, 1985, p. 60). In taking on this task, this chapter will discuss how the findings of this study relate to the literature reviewed for this thesis (chapters two and three). First, however, some potential limitations of the transferability of the study's findings will be discussed.

6.1 Transferability

Because this research project was structured as an exploratory case study, it is important to acknowledge the criticisms of the transferability of this research approach:

> The greatest pitfall in the exploratory study involves premature conclusions: the findings may seem convincing enough for inappropriate release as conclusions. Other pitfalls include the tendency to extend the exploratory phase, and inadequate representation of diversity (Davey, 1991, p. 1).

As has been stated in the literature, one cannot conclude that the findings of one case study will be directly applicable to another setting. Referred to as "external validity" in the literature, this measure of generalizability "deals with knowing whether the results are generalizable beyond the immediate case" (Tellis, 1997). Criticisms of single-case case studies' generalizability, however, are largely directed at statistical generalization, and not necessarily analytical generalization (Tellis, 1997). Therefore, one must be careful

not to completely disregard the merits of the case study method for generating themes, ideas, and interest about a topic.

It is important to emphasize here that NEARBC was selected for this case study because it offers a case in which to examine knowledge translation in Aboriginal health research. Thus, it was not for the purpose of exploring how knowledge translation works within NEARBC; nor was it chosen for the express purpose of reviewing the KT strategy or approach of the network. Since the findings of this study provide valid and credible insight into what KT means in the Aboriginal health research setting under review, however, NEARBC will be able to draw from this study's findings to further scrutinize its KT focus and to facilitate a self-evaluation if they wish to do so.

While it was noted in the previous chapter that participants were only interviewed from two of the three NEARBC nodes, this is not considered to be a detriment to the validity of the study's findings. This is because the discussions were not limited to specific locations, nor were they particularly impacted by the participants' place of residence. Since the majority of the research participants' primary affiliation was related to research and/or academia, and this is the context within which the research is written, it could be criticized as being one-side. However, it is important to remember that participants were drawn from diverse groups. Thus, while the findings cannot claim to be representative of all interests in the field of Aboriginal health, they can be used to make some general

observations about how Aboriginal KT is perceived in Aboriginal health research contexts.

The final test of the applicability of this study's findings falls outside of confines of this research project. This is because the "burden of demonstrating transferability rests with another researcher or practitioner who attempts to transfer findings based on the sample of one study to another analogous setting" (Brown et al., 2002, p.9). The discussions and conclusions presented in this chapter and the last (chapter seven) are designed to prepare readers to take on this final test.

6.2 A Thematic Discussion

In order to discuss the meaning and impact of the results in a clear and convincing way, this chapter will be structured, like chapter five, by the four themes developed through the process of thematic analysis. Under each theme, excerpts from the data, quotes from the literature, and the perspectives of the researcher will be used to make a fluid, convincing, and unique argument (Braun & Clarke, 2006).

Theme #1: The Definitional Debate

The mainstream knowledge translation literature is dominated by discussions about the various terms and definitions used by academics to label the way in which research is transformed into action. A similar debate has been the focus of the discussions related to knowledge translation in an Aboriginal context. This study affirmed the ongoing struggle

with KT terminology and definitions and added that a major reason why this debate continues to persist is that the concept of knowledge translation means different things to different people and can be described in different ways. This is what Dr. Jeff Reading, Scientific Director of the CIHR-Institute of Aboriginal Peoples' Health and co-leader of NEARBC, describes as "the knowledge translation paradox: Someone has to explain to me what knowledge translation means" (Kaplan-Myrth & Smylie, 2006, p. 31). So, why does such a paradox exist? Dr. Reading suggests that: "there is something wrong with the words we are using" (Kaplan-Myrth & Smylie, 2006, p. 31). Lack of consensus about what term to use, both within the literature and among participants, suggests that he might be right.

While discussions of Aboriginal KT have adopted many of the mainstream KT debate's terms to engage in its own definitional debate, determining the appropriate terminology requires addressing the relevancy of the current terms for Aboriginal health contexts. Of the terms in general, participants explained that there is a lack of resonance at the community level. For instance, when one participant was asked if "knowledge translation" was understood and used by communities, they responded with:

> I don't think it does. Not yet. I think there are people at the community level – maybe they have gone to university or they have read some documents where it has come up – but actually I have never heard it in any meeting I went to or any discussion about research that people really use the term yet. So, I think it is still a very foreign phrase in most communities.

While participants explained that the terms were not well known at a community level, it was believed that knowledge of the terms and the debate is growing. When contemplating

the relevancy of knowledge translation for Aboriginal health in the literature, authors cited in chapter three concluded that "knowledge translation" is the most appropriate term for the context of Aboriginal health.[14] Participants in this research study also generally accepted "knowledge translation," despite some struggles with the term's ambiguous language and paternalistic undertones. While participants in this study expressed similar concern with and criticism of "knowledge transfer" an insulting and simplistic conceptualization, this was surprising to the researcher: "knowledge transfer" is the term explicitly used by NEARBC in all of its documentation and communications (i.e. on its website, in its brochures, etc.). In pointing this out to one participant, they responded by saying: "It is a good point. And I think we need look more about what we have in our documentation that people are reading because if someone really analyses it, what is that going mean to them?" This result suggests that it might be worthwhile for NEARBC to review its material and its terminology with regards to the idea of KT.

Judging from the arguments in the literature and the perspectives of participants, 'knowledge translation' really is only a winner by default; due exclusively to the fact that is was less controversial or more frequently used in the mainstream health research literature on KT than the others.[15] A lack of true consensus about the appropriateness of

[14] As explained earlier in this thesis, this is because the CIHR's definition and use of KT has made it the predominant term used in the field of health research. The relevancy of this for Aboriginal health is that one of the CIHR's thirteen institutes is the Institute of Aboriginal Peoples' Health (CIHR-IAPH) (CIHR, 2005b). Knowledge translation has also been the most common term used in the limited literature on KT in an Aboriginal context (Hanson & Smylie, 2006; Kaplan-Myrth & Smylie, 2006; Smylie, Martin, Kaplan-Myrth, Steele, Tait, & Hogg, 2003).

[15] As previously mentioned, the general acceptance and use of knowledge translation is why this term has been used as the "default term" throughout this thesis to help reduce confusion and ensure consistency across the thesis' chapters.

the term leaves questions about what is the right term and whether finding the "right" term is necessary or worthwhile. Consider the following quote: "all knowledge strategies work at least some of the time, but not all of them work all of the time, or in every context" (Barwick, 2002, p. 29). This begs the question: If knowledge strategies need to be contextualized, should knowledge terms not be as well? One way that KT can be contextualized is through the use of multiple terms. An example of this strategy can be found in the case of the National Indigenous Knowledge Translation Summit held at the First Nations University in Regina, Saskatchewan in March 2006. While this National conference labelled itself as a "Knowledge Translation Summit," its sub-title was *Kiskisamatotan Ma Miyo Pimatisiwin*, or "Sharing what we know about living a good life" (Kaplan-Myrth & Smylie, 2006). Mixing one of the predominant terms in the academic debate with the words and interpretation of the local Indigenous Peoples on whose traditional land the conference was held, helped create a balance between the need to label the conference with a term used in the literature and the need to make the conference accessible to those outside of academia. As suggested by participants, multiple terms can also be used to explain the various elements of Aboriginal KT and to help make sense of this broad and multi-faceted concept. Perhaps this is the reasoning behind the discussions of umbrella terms, both in the literature and by participants.

Theme #2: "Aboriginal" knowledge translation

In order to understand knowledge translation it is necessary to understand what is unique about knowledge translation in Aboriginal health. In attempting to explain the unique

aspects of Aboriginal KT, participants discussed the history of KT in Aboriginal communities, commented on the elements of KT and the purpose of KT, and outlined some unique barriers to KT in Aboriginal contexts. As the research community continues to struggle to conceptualize what Aboriginal KT means, this study's discussion around the question "what is Aboriginal KT?" adds some important insights.

Answering the question "what is Aboriginal KT?" is more difficult than it may first seem. This was because knowledge translation means a lot of different things to a lot of different people and is difficult to label. There is one key commonality present in the literature and voiced by participants: that the components of KT relate to the interactions between Aboriginal Peoples and researchers. Taking this into account and knowing that it is often easier to answer the negative of a question – in this case, what is *not* Aboriginal knowledge translation – we will be begin here. Based on the discussion and examples provided by participants, as well as discussions in the literature reviewed for this thesis, it can be argued that knowledge translation in Aboriginal heath is not:

- A one-time occurrence;
- A one-way process;
- Done in isolation;
- Done in terms the can't be understood by the audience;
- Unethical; and
- Merely dissemination or the transference of knowledge.

If an argument can be made that these aspects, perhaps among others, are characteristics of what KT is not, then it can be posited that opposing statements can speak to what *is* KT. This would mean that KT is:

- An ongoing process;
- A two (or more)-way exchange;
- Done in relationship;
- Based on effective communication;
- An ethical practice; and
- Multi-faceted.

The question then becomes whether something can be called KT if it only embodies one of these components? This question will be reviewed under theme #3 below, as this begs the question of "what is a KT activity?" First, however, it is important to review some of the other findings about the distinctiveness of Aboriginal KT and the implications of these perspectives for understanding the application of KT in practice.

Knowledge translation is often discussed in the literature as a response to the need for research to have a purpose beyond that of knowledge generation. While it is important to highlight that knowledge generation for the sake of knowledge generation has its place in the world of research, it must also be remembered that health research must address pressing population health issues. Consider how one participant explained the importance of the extrinsic value of research:

> We know that knowledge generation is not in and of itself enough. Everybody tells the story of the guy that finishes his PhD and puts a $20 bill in it and comes back 50 years later and finds that it is still there…no one has ever read it. We know that simply generating the knowledge doesn't do anybody any good. There has to be more than

> that. And if we're going to continue to do health research with Aboriginal Peoples in that old traditional Western model, there will be no progress. We might generate knowledge but it will go nowhere because it is simply just not seen as relevant by people in community. And, you know, there's lots of reasons for that. One, is that that style of research is just not seen as relevant and, two, there is a whole sort of history behind it that makes people not only see it as irrelevant but make people avoid it. It is just a bad, bad thing. So, you know, if you are going to generate knowledge that is going to have any hope of doing anybody any good, you are going to have to build in the hooks and the features to it that make it…make people see that it is relevant, for one thing, to their worldview, to their own community, to their lived experience. And, two, make it, umm, make it somehow obviously actionable…there is something we can do now that we know this.

Taking the comments of this participant into account means that Aboriginal health research must be relevant and actionable. While the type and magnitude of the benefit differs between research projects –depending on their size, scope, and the nature of the research question(s) – numerous participants echoed the notion that the community should benefit. In thinking about this further, it is important to highlight that knowledge generated from research cannot always have a fantastic (i.e. broad-reaching) impact. Nor should it. These are the very reason why we invest tax dollars into research – to create a body of knowledge that we can then draw from to create, stimulate, and motivate necessary change in areas identified in need. That being said, every research project can have an impact on those involved. This is particularly true if the research is based on the principles of community-based research and is informed Aboriginal research protocols. Despite a great support for the need to include Aboriginal Peoples in research, particular barriers to Aboriginal communities engaging in research and KT, such as time and resources, will need to be addressed if researcher-Aboriginal community engagement is to be successful.

Theme #3: "Doing" KT

A key aspect of understanding knowledge translation is figuring what it means in practice and how it can be facilitated. As discussed above, describing the various components of Aboriginal KT begs the question of whether something can be called KT if it only embodies one of these components? Or must it embody two, three, four, or more? The difficulty with answering this question is that while several activities have been labelled as "knowledge translation" activities by organizations, like NEARBC, the parameters about what counts, and what does not count, as a knowledge translation activity are not clearly defined.

The difficulty with defining what is and what is not a knowledge translation activity is linked to the fact that we live in the 'age of information,' where developing, sharing, implementing, and evaluating knowledge is an everyday occurrence. As a result of this and the growing emphasis on KT within the research community, there is a tendency to label even the most mundane interactions as KT. Arguing that an activity is enabling knowledge translation just because it involves a component of KT is not necessarily a reasonable argument. For instance, is a phone call a knowledge translation activity because it transfers and exchanges information? While it seems strange to consider every phone call a knowledge translation activity, it may be possible to argue that a series of phone calls enables knowledge translation by fostering ongoing communication and helping build a relationship. Nevertheless, the longer the chain of activities amounting to knowledge translation is or the more KT is embedded in the research process, the more

difficult it becomes to label, define, and evaluate KT. However, this is exactly what the research community is seeking to do – to label, define, and evaluate KT. In the past, this has not been an impossible task: thinking of KT as it has been traditionally imagined – as the dissemination of research results through academic journals and conference presentations – places emphasis on KT as a product of research and, thus, enables it to be quantified, measured, evaluated, etc. While this "end of grant KT" perspective was shown in the literature review (chapter two) as having an influence today on current conceptualizations of KT, its downfalls point to the importance of the evolution of integrated KT.

As explained by several authors (Gold, 2006; Graham, 2007) and implicitly discussed by participants, integrated KT describes the transmission of research into policy and practice as an ongoing process, which begins prior to the submission of a research proposal and ends after the data has been destroyed (Graham, 2007). Partnerships are described as being particularly important for enabling this ongoing process of exchange, as it is the interactions between researchers and potential users of the research throughout the research process the facilitate the integration of KT in practice. This is why Gold refers to integrated KT as "socializing evidence for participatory action" (Gold, 2006). In the Aboriginal context, this socialization has much to do with the inclusion of Aboriginal Peoples in all stages of the research project: because the focus of Aboriginal KT is on the interactions between researchers and Aboriginal communities and because the purpose of KT is to improve research relations in communities and to make research relevant and

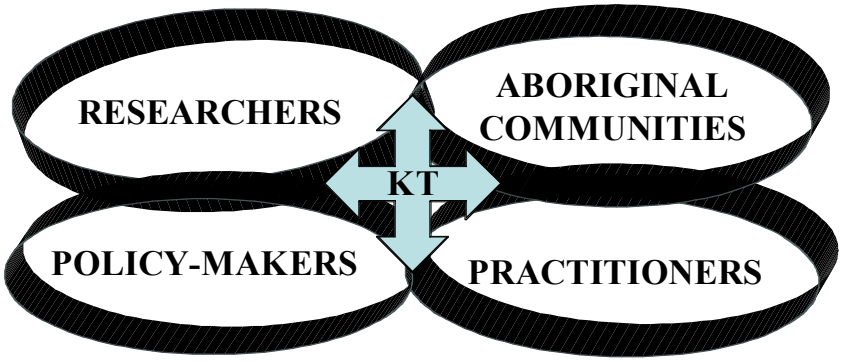
actionable, the inclusion of Aboriginal Peoples in research must be conceptualized as a key component of integrated KT.

When thinking about integrated KT as a useful strategy for Aboriginal health contexts, it is important to critique the tendency to relate this to the interactions that should occur between researchers and Aboriginal Peoples. In the general health literature, the traditional focus on the cultural differences between researchers and policy makers and ways to 'bridge the gaps' – as described by the two communities theory[16] (Dunn, 1980) – has been criticized for the simplicity of its focus (see chapter two). Because the present focus of Aboriginal KT is on the relationship between researchers (employing Western Scientific perspectives) and Aboriginal communities (informed by Indigenous ways of knowing), conceptualizations of Aboriginal KT could be criticized as a simple reinvention of the two-communities theory.

In order to move beyond the research-Aboriginal community conception of KT and avoid this criticism, it will be necessary to discuss the potential involvement of other communities, people from other professions (i.e. health practitioners), and policy-makers in Aboriginal KT. In an effort to begin to conceptualize what these relationships could look like and how these interactions could take place, the idea of a "four communities' theory" was developed by this author.

[16] As explained in the literature review (chapter two), the 'two-communities theory' is a conceptual model, the two communities' theory explains how cultural differences between researchers' and policy-makers hinders the use of knowledge and the transmission of knowledge between these two groups (van Kammen, de Savigny, & Sewankambo, 2006).

Figure 11: The "Four Communities" Theory



While the four communities theory is presented here as a model for knowledge translation, it is important to clarify that it is only in its preliminary development and is, thus, only intended to stimulate discussion about what a model of Aboriginal KT could look like. The ideas behind this preliminary model and the various ways in which this model could be expanded are noted below.

The four-communities theory is based on the idea that all 'stakeholders' or relevant groups should be incorporated in KT processes and should interact and associate with each other to ensure the success of KT (NCDDR, 2008). This is demonstrated in the "four communities theory," where each group occupies its own sphere, while also overlapping (and therefore interacting) with each of the other groups. The overlapping areas of black ribbon represent areas where knowledge translation activities occur between the various groups.[17] Double-sided arrows could be added into this diagram in

[17] For example, the black area between researchers and Aboriginal communities is where the development research relationships and initiatives to manage the intersections between Western and Indigenous ways of knowing would be placed.

each of these areas to emphasize that the knowledge translation between groups is a two-way exchange. It should also be added that KT must occur within each of the four communities: that is, between Aboriginal communities, between health researchers, between policy-makers, and between health practitioners. Finally, the four-way arrow in the middle of the four ovals represents, arguably, the optimal type of KT, as this is where KT involves and integrates the ideas and perspectives of all potential 'stakeholders' or relevant groups. It must also be remembered that the four communities theory is situated within a broader socio-political context, which should be further examined. This should include, for example, an examination of the response of the media and public opinion to Aboriginal health research, and the role that these groups play in facilitating discussion about research, as well as the political climate and attitude towards Aboriginal heath issues that will inevitably influence the discourse and practice of Aboriginal. In order to adequately explore these influences, a fifth sphere may need to be incorporated into a four communities model.

In returning to a discussion of the aspects of the four communities model sketched above, it is important to highlight the need for these communities to work together. This is because each one of them has a unique perspective to provide to the debate. In addition to the scientific and methodological expertise of researchers and the cultural and local expertise of communities, both of which have been recognized in discussions about Aboriginal KT, practitioners and policy makers can bring important skills to the table. For instance, frontline workers can bring knowledge of their experiences 'on the ground'

(Gowdy, 2006) and policy-makers and decision-makers in fields relevant to Aboriginal health can provide resources, skills, and knowledge of the political context governing the implementation of research into policy.

If these groups are to work together, however, understanding between the groups will require the establishment of effective lines of communication. In recognizing this, it is also important to remember how language use is not consistent across professional and cultural groups (Research Impact, 2008). As one participant put it: "People will talk about knowledge transfer, translation maybe a little bit differently depending where they come from – maybe not from an Aboriginal health perspective" And even if the same words are used, they may not mean the same thing or be interpreted in the same way (Research Impact, 2008). This is evident in the KT debate itself, where KT is used as an acronym for both knowledge translation and knowledge transfer and, therefore, may not be used the same way in all cases. What this highlights is that time needs to be built into discussions to allow for these differences to be worked out and, perhaps, to develop a common understanding of terms and meanings at the outset.

While the four communities theory lays out a framework from which the different communities can interact and assess their relationships with one another, the application of this theory in practice needs to be further assessed. For example, queries about whether research can or should integrate all four communities, and at what stages in the process each of the interactions take place, need to be answered. With regards to the first

question, it is logical to assume that research that does not impact the work of one or more of these groups would not need to embrace the full conception of the four communities theory.

With regards to the second question, participants have consistently explained that researchers and Aboriginal communities must engage throughout the research project. Perspectives on when and how the three other communities can and should relate with one another and engage in some level of knowledge translation, however, remains unclear. As one participant explained, "there needs to be policy and practitioner involvement in that process, but it is not clear to me when." In speaking from a strictly research perspective, this same participant went on to add that:

> I see the involvement of the policy and practitioner people in sort of basic research…[as] a bad idea. It somehow alters what you are trying to do in ways that aren't particularly helpful for that sort of basic knowledge generation thing.

This quote highlights that interactions between researchers, practitioners and policy-makers are complicated by the fact that each group has strengths where the others may lack and each has its own perception of the "other side:"

> Few researchers have the temperamental fortitude for the messy, action-oriented world of social and political activism. It is a rare practitioner who has the patience or the caution of meticulous scientists. The interactions between these three domains are a true cross-cultural experience (Shonkoff, 2000, p. 182).

As a result of these differences, misunderstanding is commonplace:

> Policy people always think researchers over-complexity everything and they can never give you a straight answer on anything…The answer is always it will take ten more studies…however many more dollars…And that just sort of drives them crazy, umm, and I kind of get that, you know, in a way…And what drives researchers crazy is that, you know, you tell them, you know, you say to them, "communities that control their own health systems, politics and culture, have lower

> suicide rates" – there is an obvious actionable item there, right? [And nothing happens. That is frustrating.]

Part of the reason for this misunderstanding, as one participant noted, is that researchers are ill trained or prepared to engage with policy makers. This is problematic because: "the work that we do in Indigenous health is political work. There is no way around that and you can't ignore the implications of what you do from a policy perspective." In stating the need for researchers to engage with policy-makers, it is important to question the importance of the opposite situation – of policy makers engaging with researchers. This begs the question: whose responsibility is it to facilitate engagement between policy-makers and researchers? While the answer to this question is presently unknown, the question is raised here to stimulate discussion.

What these examples demonstrate is that the four communities theory and its discussion of an imagined interaction between all groups involved in Aboriginal KT, is still very theoretical and speculative in nature. As such, the operationalization of its ideas will need to be tested and examined, and its theory refined. In the meantime, however, it provides a means to challenge the present conceptualization and approach of Aboriginal KT to evolve beyond its researcher-community perspective and to engage with and examine the roles and responsibilities of all four groups. This is further discussed below.

Theme #4: KT Roles

Increased interest in and discussion about Aboriginal research ethics has encouraged the Aboriginal health research community to examine more closely the roles and responsibilities of researchers, institutions, communities, and other stakeholders in

facilitating ethical research. The idea of knowledge translation pushes these groups (and others) to further interrogate their roles and responsibilities in the conduction and dissemination of Aboriginal health research. In the results of this study, the roles and responsibilities related to knowledge translation in Aboriginal health research were largely discussed and described with regards to NEARBC. These discussions, however, raise some important ideas about the general roles that community members, researchers, and institutions can play in facilitating KT.

To help draw connections between researchers and community members, participants avidly discussed the role of "knowledge brokers". While knowledge brokering is discussed in the mainstream KT literature as a role taken on by experts or officials in high-level institutions, it was discussed in this study as a role for key community members, such as Elders and Chiefs. This is because Elders and Chiefs were seen as 'experts' in the community, as these individuals have authority, local knowledge, and multi-disciplinary skills at the community level. It is important to highlight the expertise and experience of Aboriginal Peoples in KT because, as Eber Hampton explained at the Indigenous Knowledge Translation Summit, this is all too often ignored:

> We [the Indigenous community] fall too easily into this old idea of knowledge translation as an expert system: the researcher, as an expert, does a literature review, gets their ethics approval, and then goes out and does what the research proposal said they were going to do, then goes back and analyzes the data, writes it up, publishes it in a journal…. later someone reads that journal and wonders how that knowledge in the journal could be translated into expert practice. Something new has come along (i.e. Indigenous approaches to knowledge translation ed.) – it isn't really new, because it is Indigenous practice – as human beings, that notion of sitting in circle and talking to each other it find out what we can learn from each other. That is very old practice. It is tried, tested and true over thousands of years and

> generations (Eber Hampton quoted in Kaplan-Myrth & Smylie, 2006, p. 32).

In order to fully embrace the strengths and capacities of Aboriginal Peoples in research and KT, it was suggested by several participants that researchers rethink their role with regards to the Aboriginal population. For, if researchers were to think of themselves as a resource for Aboriginal communities, the relationship between researchers and communities would be much more equal. As one participant explained, this perspective enables us to think of both sides as bearing skills necessary for effective research:

> The idea is we [researchers] bring a kind of epidemiological expertise to bear on a problem that is of importance to that community and give them the tools to be able to do what they want and then they take the data, the knowledge that's generated and what they do with it is informed by a particular kind of Indigenous knowledge. I mean, they know their territory, they know the kinds of things that young people are doing out there and they know what they can do to try and target that in a way that will be relevant to the young people in the community and much more likely to have an effect.

This is similar to the perceived benefits of research that uses the "best of both worlds approach" and embodies similar principles to 'two-eyed seeing.' It is, however, also contrary to some discussions in the literature about the differences between Western science and Indigenous ways of knowing (e.g. Cajete, 2000; Hanson & Smylie, 2006). Addressing this contradiction through support of the "best of both worlds approach," one participant explained that it is shortsighted to think that Western science is antithetical to Indigenous knowledge. Instead, it was explained that the Western scientific method:

> It doesn't have a position on Indigenous knowledge. I think it can be used for good or ill with regards to Indigenous knowledge, but applying the sort of scientific method is not denying the value or truth of indigenous approaches at all. I just don't accept it.

If the research community is to begin to conceptualize itself as a 'resource' for the Aboriginal community and/or if the 'best of both worlds' are to be used to inform

Aboriginal health research projects, it will be essential to clarify whether these approaches merely reinforce the idea that Western Science is or should be the overarching framework within which all of forms of knowledge are subsumed and through which all knowledge should be generated. If this is not the case, clarification about how the use of Western science "for good or ill with regards to Indigenous knowledge" will be managed, how the scientific method will be applied so that it does not devalue Indigenous approaches, and how researchers will affirm and recognize the knowledge and perspectives of 'experts' at the community level within research projects. The concepts of "two-eyed seeing" and "ethical space" reviewed in chapter three provide a conceptual grounding to begin these discussions.

In addition to the need for individual researchers to re-examine their role(s), the results of this study note that research groups and networks need to take on more responsibility with respect to the future of KT. For instance, the results affirmed that the research community has an important role to play in KT in maintaining the integrity of some of its existing areas of focus. This includes, but is not limited to, areas such as: education, communication, and relationship building activities and events. It has also been argued that the responsibilities of the research community with regards to KT need to develop beyond their current level. As Dr. Reading says: "We have to come up with a set of recommendations that will guide the institutions, the politicians. That is what we need out of research" (Jeff Reading quoted in Kaplan-Myrth & Smylie, 2006, p. 31). Crafting such recommendations or guidelines from a research perspective will be necessary to create a common voice among the research community and to send a strong and solid message to

political and apolitical institutions in Canada that the research community is serious about KT. This will be important for institutions to hear because it is certain that the way in which the KT debate progresses (or digresses) will impact the way that Aboriginal health research is done in Canada.

As was discussed in the findings, NEARBC's role with regards to the development of these guidelines was divided. Even if there were consensus among participants about the role of NEARBC with regards to the development of KT guidelines, this is something that would benefit from being debated more broadly. In debating whose role it will be to develop new guidelines, the questions of at what level (national, regional local) and from what perspective (Aboriginal/non-Aboriginal, academic/non-academic) will need to be answered. In answering these questions, the challenge will be to strike a balance between the transferability and relevancy of the guidelines. As these challenges are similar to those faced by the CIHR during the development of the CIHR *Guidelines for Research Involving Aboriginal Peoples* (CIHR, 2007), some lessons may be able to be learnt from this process.

6.3 Identifying Challenges

Reviewing the thematic areas and discussing them in relation to the KT literature demonstrates the rich content of each of these themes. The interaction between the thematic areas and in relation to the literature also reveals some important challenges for

the discourse and practice of Aboriginal knowledge translation. Six key challenges identified by the researcher are presented and discussed below.

Challenge #1: To clarify terms and meanings

The need to clarify the terms and definitions associated with the concept of knowledge translation is grounded by the fact that the KT debate is more than just one about semantics – it points to the different understandings of knowledge and practice, as well as the relationships between the two, present in the field of Aboriginal health. Nevertheless, a continued focus on the differences and similarities between the terms in knowledge translation constrains the ability for the debate to move forward. As consensus is far from being reached, the challenge will be to find ways to clarify what is meant by terms, while also developing strategies to manage the differences in the terms and definitions used.

Challenge #2: To learn to work together

If the goal of knowledge translation is for knowledge gained about the health of Aboriginal Peoples to positively impact, change, or influence the experiences of individual and community health, and if this is to be accomplished throughout the ethical generation and application of relevant research, then Aboriginal communities must be included and involved in all stages of the research process. While involving and including Aboriginal Peoples in research may seem like a simple task, it is important to remember that a history of unethical research practices continues to impact the research landscape

today. As has been suggested by a variety of different sources, developing effective partnerships and relationships is one way to rebuild trust between researchers and Aboriginal communities. In advocating for partnerships and collaborations, however, it must not be ignored that relationships take a long time to build and develop. Relationships also take a lot of work. This is because a major part of partnership development is based on ongoing communication and the development of understanding. Learning how to overcome these difficulties and work effectively together will be a great challenge for Aboriginal health researchers and their community partners.

Challenge #3: To conceptualize 'integrated KT'

Aboriginal KT is described as occurring throughout the research process and as something that occurs between researchers and Aboriginal communities. Thus, knowledge translation is best considered as a process that can and should always be occurring in a research environment. Conceptualizing KT in this way challenges the need for many researchers, organizations, and institutions to measure the effects of research in order to receive continued funding or to legitimize their work. As one participant explained:

> It is much easier to talk about the product of knowledge translation…[than if we are] practicing [KT]…look we are at a workshop; practicing… And that is why dissemination at the end of the project is, ummm, easier in a way. Cause you are done, you report.

This is further complicated by the fact that knowledge translation occurs in different ways in different contexts. Thus, developing strategies and methods to facilitate and

"measure" an integrative, multi-faceted approach to KT will be necessary if this emerging conceptualization of Aboriginal KT is to be more widely accepted.

Challenge #4: To move beyond the researcher-Aboriginal community focus

While focussing on the relationships between researchers and Aboriginal communities is necessary for ensuring that ethical research is conducted in Aboriginal communities and that learning, capacity building, and knowledge sharing is facilitated at a local level, it will be important for Aboriginal health researchers to look beyond researcher-community interactions if the health and well-being of the Aboriginal population in Canada is to experience great improvements. As explained by the four communities theory, the Aboriginal KT discourse must evolve to include policy-makers and practitioners if it is to realize the potential that doing effective KT has for improving the health of Aboriginal Peoples. This is because the capabilities that policy makers and practitioners can bring to the table are different than those provided by Aboriginal Peoples and Aboriginal health researchers. Since policy-makers and practitioners are currently developing their own strategies to engage in knowledge translation with one another and with researchers in the mainstream health research community, integrating their ideas into a conceptualization of Aboriginal KT and negotiating KT practices represents another aspect of this challenge.

Challenge #5: To (re)define roles and responsibilities

When KT is defined as something that is integrated throughout the research process, it becomes easier to see how it has the potential to help reshape and redefine the way in

which research is done and the way in which knowledge is handled, shared, and provided to the 'right people at the right time.' However, it also suggests that KT involves a new way of doing research and, thus, requires a new understanding of the roles and responsibilities of those involved. Finding ways to nurture these new roles and to create space for them to develop will be a great challenge for the future. In particular, time, energy and dedication will be required to fulfil and support these roles. This will be a challenge for all parties involved, as Aboriginal communities, researchers, policy-makers, and practitioners all cite issues of time, capacity, and resources as constraints to their work with regards to research.

Challenge #6: To make Aboriginal health and KT a priority

While a general challenge for Aboriginal KT is to highlight the importance of Aboriginal health issues in Canada, a more specific challenge is to make the point that KT is an important aspect of the field of Aboriginal health research. This will mean convincing governments, funding agencies, universities, and other institutions that focussing on KT has an integral role to play in reducing the gaps in the "widening 'chasm' in access, quality, and disparities (Woolf, 2008, p. 212). Targeting funding agencies may be a strategic move, as a number of authors have articulated that research-funding agencies have an important role to play in the development and support of knowledge translation (Pyra, 2003). For instance, by: (1) facilitating interactions between researchers and policy-makers; (2) incorporating policy-makers on research review committees and panels; (3) creating incentives and compensation for researchers to dedicate time and

resources to KT; (4) developing training opportunities with regard to KT; (5) developing plans for comprehensive translation of research funded; (6) uncovering and targeting the priorities of policy-makers; and (7) supporting research that evaluates, explores, and examines the importance, impact, and meaning of knowledge translation in research (Pyra, 2003). While this author does not wish to evaluate the work of research funding agencies with regards to KT, it is important to note the potential for growth in this area.

CHAPTER SEVEN: CONCLUSION

> Although Canada as a whole ranks at the forefront among nations according to the criteria of the United Nations Human Development Index, Canadian Aboriginal people living on rural reserves rank 68th, while Aboriginal people living elsewhere rank 36th (Webster, 2006).

The conclusion begins with the same quote that opened this thesis in order to challenge the reader to examine if their interpretation or reaction has changed given what they have learned from this research report. For the researcher, this quote continues to illustrate the shocking reality about the disproportionate burden of health experienced by Aboriginal Peoples in Canada. It also raises questions about what is known about the poor health status of Aboriginal Peoples and what action is being taken to improve Aboriginal Peoples' health in Canada. As this thesis has shown, these questions are linked to the concept of knowledge translation. While knowledge translation can and does exist in many different contexts, it has received particular attention in health research contexts, where it is defined as the process(es) through which research is transformed into action to improve health. While considerable strides have been made with regards to conceptualizing the meaning of knowledge translation in mainstream health contexts, little time has been spent on examining the particularities of what knowledge translation means in Aboriginal health contexts.

In taking on the task of exploring and examining the concept of Aboriginal knowledge translation, this study was structured as a single-case exploratory case study. As such, its purpose was to engage in an in-depth exploration of KT within the context of one Aboriginal health research network – the Network Environments for Aboriginal Research

British Columbia (NEARBC). Concepts, ideas, and patterns drawn from the thematic analysis of semi-structured qualitative interviews conducted with key individuals associated with NEARBC demonstrate the complexity of Aboriginal KT. In breaking down the rich data into four thematic categories – (1) the definitional debate, (2) Aboriginal KT, (3) doing KT, and (4) KT roles – some key points and issues about KT became evident. By relating these themes to the literature, the essence of the Aboriginal KT debate was fleshed out and six challenges for the future outlined. The final section of this thesis picks up from here by taking the view that where there are challenges, there are also great opportunities, avenues for change, and great potential for learning.

7.1 Lessons Learned

In an effort to highlight the lessons learned and areas where action is needed, the six challenges have been re-conceptualized as six "lessons;" conclusions about what the challenges teach us and how they show us ways to move forward.

Lesson #1: Definitional clarity is needed

The challenge to find definitional clarity with regards to the concept of Aboriginal KT teaches us the importance of terms and definitions for understanding KT. While it was noted that consensus on appropriate terms may never be reached, clarity about the use of particular terms and their intended definitions will be important. This means that the use of particular terms by research groups, organizations, networks, and institutions, such as NEARBC, should be carefully scrutinized, defined, and explained in public

documentation. Further, strategies, such as the use of multiple terms to facilitate understanding, need to be examined. Involving the "four communities" (and Aboriginal Peoples in particular) in these discussions and examinations will be essential, if the terms, meanings, and strategies are to facilitate mutual understanding.

Lesson #2: Researchers and Aboriginal Peoples need to work together

Challenge #2 reminds us that a history of unethical research practices in Aboriginal communities continues to impact the work of today. In order to facilitate efforts to work together, however, greater awareness, understanding, and effort is still needed from the research community. As researchers currently hold the balance of power in Aboriginal health research contexts, learning to relinquish this power will be a challenge for the research community. The potential for research to have a greater impact if it is co-developed and incorporates knowledge translation practices, however, is great and something that should not go unnoticed or undocumented. Finding ways to document the benefits of KT, therefore, will be essential for the future.

Lesson #3: 'Integrated KT' needs to be 'embedded' in the KT discourse

The idea of integrative, or embedded, KT emphasizes that knowledge translation is not a static, one-time, one-off act and that simply writing an article or presenting research at a conference will not be sufficient for research with Aboriginal Peoples. Instead, knowledge translation must be built into the research design and established throughout the research process. Establishing guidelines to help Aboriginal health researchers (and

their partners) in this type of research and finding ways to 'market' this conception of KT so that it is understandable to other fields of research, institutions, and the general public are two ways in which the idea integrated KT could be progressed.

Lesson #4: Aboriginal KT should embrace its multidisciplinarity

There is a need for discussions and practices of Aboriginal KT to move beyond a researcher-community focus and embrace the inherent multidisciplinary nature of KT in Aboriginal health. On the one hand, Aboriginal health research must get political if it is to make a difference in the health and well-being of Aboriginal peoples. As one participant put it: "[if] you want to make positive change or change at all, like, you have to get political. Sometimes you have to play the game, but you don't have to give up on your principles to do it." On the other hand, the input of people in the field can provide skills and expertise in areas that researchers and Aboriginal Peoples cannot. Although this study's four-communities theory provides a way to think beyond Aboriginal KT's present focus, it, or a framework like it, will be important to test and refine this and other theories. Developing KT strategies that speak to the many communities of Aboriginal health research will also be an important area for development.

Lesson #5: Roles and responsibilities need to be defined and clarified

Challenge #5 reminds us that as Aboriginal KT continues to be conceptualized and examined by Aboriginal health researchers and their partners, the roles of those involved will need to be continually defined, and redefined. Making this process explicit is

necessary because in order for change to happen, people need to know and be comfortable with their role. Thus, time for people to adjust to or redefine their roles will need to be built into a vision of Aboriginal KT. Training and education about roles and relationships will also be necessary.

Lesson #6: KT has a place in the field of Aboriginal health research

This thesis has not been able to engage with and examine the broader social and political context of KT in Aboriginal health. However, it has been able to highlight the important role that knowledge translation can play in Aboriginal health contexts by calling people to question the ethical, practical, and political aspects of Aboriginal health research and policy in Canada. As funding institutions have to "weigh carefully the relative capacity of each research sphere to improve health and economic outcomes and should fund each endeavour accordingly" (Woolf, 1988, p. 212), framing the argument as through a cost-benefit analysis may help demonstrate the important place for KT in the field of health research. There is also literature to support that funding knowledge translation research "may do more to decrease morbidity and mortality than a new imaging device or class off drugs" (Woolf, 1988, p. 212). In making this point, will be important to ensure that conceptualizations are not overblown such that KT purports the idea that focussing on knowledge is the decisive factor in influencing the well-being of Aboriginal Peoples.

7.2 Final Thoughts

Like many other issues that are systemic and complex, Aboriginal health has been normalized in Canadian society: that is, the ill health of Aboriginal Peoples is not seen as a pressing issue for Canadian society. As one participant in this study explained: "Policy makers have heard, you know, statistics about the health of Aboriginal Peoples, the disparate health conditions…for so long that it is sort of becomes, like, a blocked issue." A general challenge for Aboriginal health research, therefore, will be to overcome the political fortitude to consider Aboriginal health as a "non-problem" (Stone, 2001). This is a major challenge that will require considerable attention and effort, as it is deeply connected to the colonial history of Aboriginal Peoples in Canada (Adelson, 2005).

In tackling the issue of Aboriginal health and knowledge translation it is important to remember, as the previous section highlighted, that where there are challenges there are also opportunities for action and lessons to learn. The true challenge, then, will be to find ways to emphasize and make use of the opportunities for action and change, and to overcome and manage the challenges that will be faced along the way. By working together, dedicating time and energy to this pursuit, and systematically questioning the discourse and practice of Aboriginal KT as it evolves, this will be possible.

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APPENDIX A: THE EVIDENCE DEBATE

Despite common agreement that "the best available evidence that is applicable in a given setting should inform practice" (Pablos-Mendez & Shandemani, 2006, p. 81), the meaning of "evidence" is "a contested domain and is in a constant state of becoming" (Nutley, Walter, & Davies, 2003). The differences between the professional cultures of researchers and policy-makers noted by the two communities theory is also used to explain differences in these two groups conflicting views of evidence: "researchers often limit evidence to research evidence, and users often advocate for a broader definition of evidence to include public attitudes and expert opinion" (Ranford & Warry, 2006, p.5, citing Clements (2004)).

Expanding on this, it has been argued that researchers consider evidence to be that which is gained and tested through Western scientific methods and practices to be "proofs" and "facts" about empirical realities. The narrowness of this conceptualization limits that which can be counted and validated as evidence and, therefore, used to inform practice. In a broader social and political context, a wider spectrum of evidence is perceived: evidence is gained through a number of different methods and outlets, such as stories and personal opinions, and from a variety of individuals and/or groups. The concern with defining evidence in this way is that the persuasiveness of the manner in which researchers communicate their evidence becomes quite important (Stone, 2001). As a result, certain voices may be heard over others because of their ability to present their findings. For practitioners, however, evidence is often neither scientific nor anecdotal:

> Much of the knowledge that informs service delivery is empirical in the literal sense of the word. As such, it is influenced by what service providers learn form practice, which may not necessarily be grounded in systemic data collection and analysis. This important source of wisdom is referred to as "clinical judgment" or "professional experience". Its value is determined by the quality of the messenger (Shonkoff, 2000, p. 181-2).

In some cases, the influence of the three different conceptions of evidence is applied such that: "[e]vidence is defined as research, clinical experience, and patient preferences" (Graham & Logan, 2004, p. 92).

The importance of the evidence debate for KT is that differing conceptions of evidence means that researchers and policy-makers also have differing views about how to use evidence. According to the distinctions made by this debate: "Scientists generate data to advance knowledge. Policymakers mobilize information to support an agenda" (Shonkoff, 2000, p. 181). Thus, clarifying what is meant by "evidence" and "knowledge" is an important undercurrent of the KT debate that deserves further academic attention.

APPENDIX B: THE ETHICAL LANDSCAPE OF ABORIGINAL RESEARCH

As indicated in section 3.1 of this thesis, this appendix will provide an overview of the changing ethical landscape of Aboriginal health research. In doing this it will review some of the key initiatives developed to ensure "more appropriate and enforceable protection of Aboriginal Peoples' interests in research activities" (Brant-Castellano, 2004, p.109).

The growing discourse and body of literature on the ethics of research involving Aboriginal Peoples' is driven by the desire and need to address concerns with previous approaches to research involving Aboriginal Peoples and/or Aboriginal communities. As evident from its derogatory name – "helicopter research" (Chartrand & McKay, 2006, p. 63) – Aboriginal health research has historically treated Aboriginal Peoples in unethical ways: Aboriginal health researchers (primarily non-Aboriginal people) would 'swoop down' into the community to collect data and then retreat to externally analyze and interpret the data. This method of conducting research *on* and not *with* Aboriginal communities has been rightly criticized as an extension of the colonial relationship between Aboriginal and non-Aboriginal peoples (Schnarch, 2004; Smylie, Martin, Kaplan-Myrth, Steele, Tait & Hogg, 2003). Thus, developing "more appropriate and enforceable protection of Aboriginal Peoples' interests in research activities" (Brant-Castellano, 2004, p.109) is an essential step to improving research ethics practices. Several key initiatives are reviewed below.

The principles of Ownership, Control, Access, and Possession, broadly known as OCAP, are described as "self-determination applied to research" (Schnarch, 2004, p.1). The term OCAP was coined by the Steering Committee of the First Nations Regional Longitudinal Health Survey (RHS) and were developed as "a political response to tenacious colonial approaches to research and information management" (Schnarch, 2004, p. 1) described briefly above. As such, OCAP originates from a First Nations context. Advocates of OCAP, however, explain that: "many of the insights and propositions outlined are relevant and applicable to Inuit, Métis, and other Indigenous Peoples internationally" (Schnarch, 2004, p.1). OCAP has been important for the discourse of Aboriginal research ethics because it makes a strong statement about the importance of trust, empowerment, and capacity for effective research. Because OCAP is a direct political response to a history of unethical research practices, it is often thought to be too protective. The result is that OCAP may restrict access to information and information sharing across communities to the extent that research has a one-time effect. While this raises concerns about facilitating knowledge translation between and across Aboriginal communities, many First Nations communities are more comfortable knowing their rights to self-determination are preserved.

In respecting the movement and goals of OCAP, while also taking into consideration the need for ongoing, sustained, and translatable Aboriginal health research, the Canadian Institutes of Health Research (CIHR) took on a lead role in the field of research ethics. Over the past six years, the CIHR has devoted time and resources to establishing official

Guidelines for Health Research Involving Aboriginal Peoples (CIHR, 2006). The finalization of these guidelines in the spring of 2007 means that they now apply to all research funded through the CIHR. As the CIHR is the major health research-funding agency in Canada, these guidelines provide a minimum standard that must be observed in Aboriginal health research and sets a precedent for all other research involving Aboriginal Peoples. The broader revisions to Aboriginal research ethics in Canada currently being made to Section 6 – "Research Involving Aboriginal Peoples" – of the *Tri-Council Policy Statement (1998)* though the Interagency Panel on Research Ethics' (PRE) *Aboriginal Research Ethics Initiative* (Government of Canada, 2005), which is expected to be completed in 2009, will be sure to raise awareness and broaden the reach of the changing ethical landscape.

While these official guidelines have received a lot of attention, it is important to note that these official guidelines are not the only guidelines that have been (or likely will be) created to help structure appropriate research relationships in Aboriginal communities. Multiple ethics guidelines exist and are continually being developed at the local and regional levels by Aboriginal communities, research groups, organizations, and universities (for example, see KSDPP, 2006; UVic IGOV, 2003). In an effort to ensure the most rigorous and relevant protection for Aboriginal Peoples, the CIHR has stated that if community guidelines conflict with the new CIHR guidelines, the perspective of the community guidelines will prevail (CIHR, 2007); a similar clause will likely be included in the revised section of the *TCPS*.

While it is important to describe this multi-layered and complex ethical landscape, it is also important to discuss the content of these guidelines. A common goal of these guidelines is to ensure that the relationship between researchers (which, until capacity in Aboriginal communities grows substantially, will largely be non-Aboriginal peoples) and Aboriginal communities is based on the principles of mutual respect, reciprocity, relevance and responsibility (BC ACADRE, 2007). This means that: (1) respect is given to Aboriginal peoples, their cultures, and their knowledges; (2) knowledge gained through research is for reciprocal benefit (in particular, that the community also benefits from the research); (3) research is seen as relevant to and useful for the community to be able to meet their needs; and (4) responsibility for the research is shared between the researcher and community through active participation and engagement (BC ACADRE, 2007). The main difference between these ethical principles and those grounding the Tri-Council Policy Statement (TCPS), which governs the country's university ethics board, is that the concerns and needs of the community are taken into account. For example, the benefits of research must not only impact the individual, but also the community; and that approvals for research may need to incorporate community consent.

While the changing ethical landscape of Aboriginal health research is seen as an important step forward for Aboriginal health research, it also demands a lot of the Aboriginal health research community. For example: researchers must take extra time to develop appropriate relationships with Aboriginal partners prior to and throughout the research project; the research protocol must often be approved by more than one ethics

board or advisory group; and additional resources are often needed to conduct consultations and/or spend the necessary amount of time in and with the community. Thus, the demands of time and expertise to do ethical Aboriginal health research are a challenge for many researchers. As the Aboriginal research ethics discourse continues to evolve, it is hoped that institutions and organizations will provide greater support to Aboriginal health researchers and their community partners.

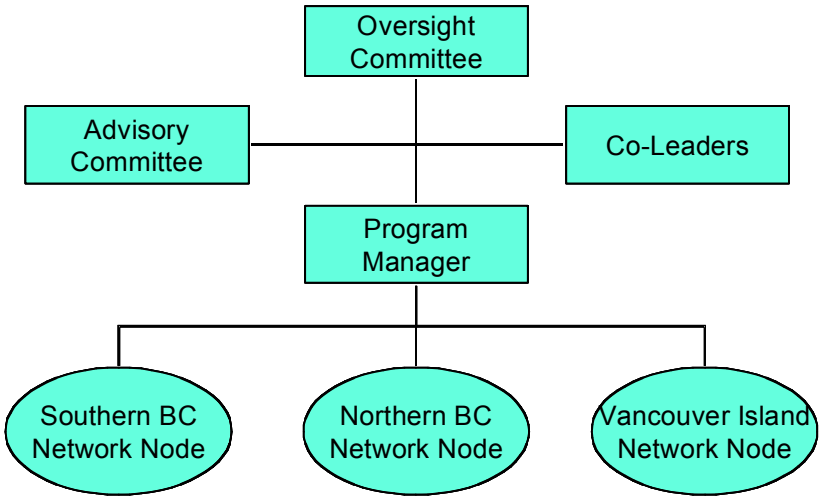
APPENDIX C: A REVIEW OF THE CASE STUDY

This appendix is designed to supplement the material provided in the body of this thesis so that the reader has a solid grasp of the nature of the case study – the Network Environments for Aboriginal Research British Columbia (NEARBC). This will provide further insight into why NEARBC was chosen as a case study for this research, as well as give context to the nature of the results and discussion of the thesis. To do this, this section will be divided into three sub-sections that highlight some important features not included in the text: the history of the governance of the Oversight Committee; the growth of NEARBC's membership and the website; the funding history of the network and a newly developed partnership agreement with the Network Environments for Aboriginal Health Research British Columbia and the Western Arctic (NEAHR BC-WA); and NEARBC's vision for the future.

The Evolution of NEARBC's Oversight Committee

In addition to the discussion about the function of the Oversight Committee provided in the body of this paper, it is important to add here that the current structure of the Oversight Committee is only a recent development. This is because when the network was first formed, both an Oversight Committee and Advisory Committee provided this advisory function. A visual representation of this structure is provided below.

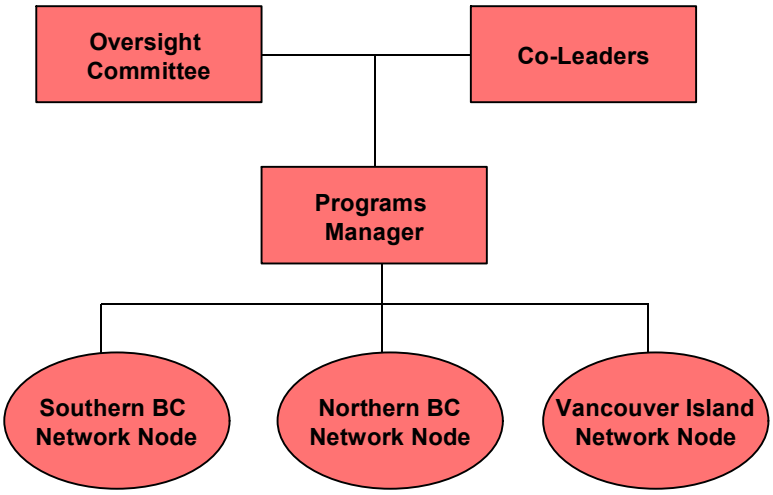
Figure 12: NEARBC's Original Organizational Structure



(Kmetic, Reading & Edgar, 2007)

Furthermore, the Oversight Committee was made up of three people, while the Advisory Committee comprised of eleven people, two of where also on the original Oversight Committee. The decision to change the structure of the advisory body of the network was decided at a joint Advisory Committee-Oversight Committee meeting (October 2, 2007), the two committees (Oversight Committee and Advisory Committee) were merged (NEARBC, 2007b). This merger was enacted to help reduce duplication of the roles of both committees and to make better use of the limited number of people with expertise in Aboriginal health in BC. The current structure of NEARBC, which is also seen in the body of this thesis, is pictured below.

Figure 13: NEARBC's Current Organizational Structure



Note: This figure was created in consultation with NEARBC's co-leaders and programs manager as an update to the original structure developed by Kmetic, Reading, and Edgar (2007).

Because this merger occurred during the course of this research's development and prior to the writing of the thesis, when the thesis refers to the "Oversight Committee" it is referring to the newly formed (merged) Oversight Committee; this is, of course, with the exception of the reference to the Oversight Committee in the recruitment and consent materials (see Appendix F and H respectively).

NEARBC's Growth

The success of NEARBC to date is reflected in the growth of its membership and its website, which is the hub of its communications and correspondence with its members.

Membership Statistics

As indicated on the NEARBC website, membership is encouraged (and comes from) diverse communities, organizations, disciplines, and fields:

> Anyone with an interest in Aboriginal health to become involved in the Network, including: institutionally-based researchers from all disciplines; research trainees and students; Community-based researchers; community collaborators - i.e. Aboriginal (First Nations, Métis and Inuit) organizations and community-based organizations; service providers and directors working in the areas of health promotion, prevention and treatment with an interest in evidence-based practice; policy makers, including local and regional health authority representatives and others interested in evidence-based policy and planning; and individuals with an interest in Aboriginal health research (NEARBC, 2007a).

Since its creation, the membership of NEARBC has grown quite rapidly. As of early September 2007, the total membership was composed of 528 individuals. In order to get a better understanding of who makes up the NEARBC membership, an analysis of the networks membership according to individuals' affiliation, occupation, and location. Descriptive statistics obtained from this analysis are provided in five tables and charts below. While the total membership is 528, the number of members included in the following tables and figures vary due to the availability of data. The population sample size (*N*) is indicated in each section. First, however, some important highlights from this information is summarized here:

- Almost half (47%) of NEARBC's membership is affiliated with a post-secondary institution. The second and third highest association was with affiliation with a health authority (20%) or an Aboriginal organization (14%).
- A large portion of the members either classified themselves as a researcher (38%) or as a policy-maker, planner, and/or administrator (30%).
- Those members who classified themselves as researchers were largely also associated with post-secondary institutions (65%): particularly UBC (33%) and UVic (18%). Health authorities were the second most common institution listed by researchers at 16%. Government had the smallest number of researchers associated with it (4%), while community organizations were not far ahead (6%).
- 80% of the community organizations members were affiliated with were Aboriginal organizations.
- The geographic locations of the membership mimicked the nodal structure of the Network: 39% in the Lower Mainland, 33% on Vancouver Island, and 17% in Northern BC. An additional 11% were located in the Interior of BC.

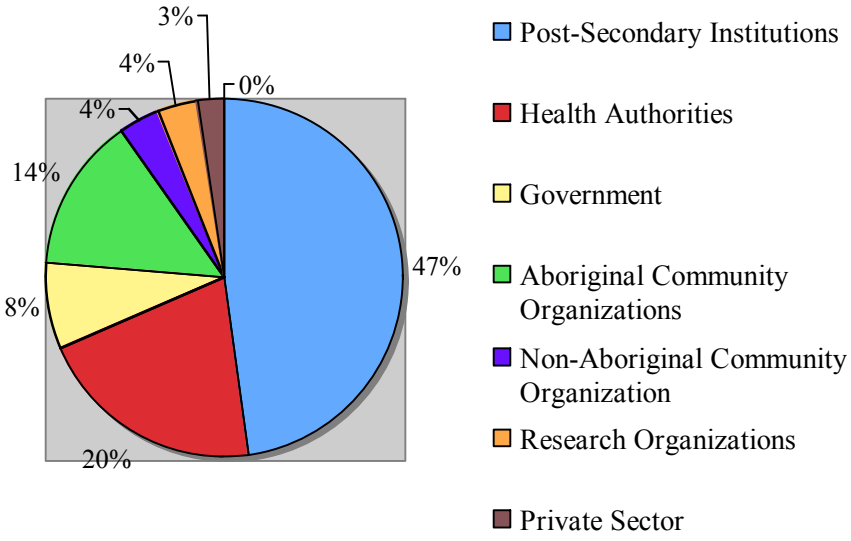
A more detailed breakdown of the membership is provided below in five sections.

1. Breakdown of Network participants by organizational affiliation (*N* = 455)

Table 9: NEARBC Membership by Organizational Affiliation

Post-Secondary Institutions	BC Health Authorities	Government	Community Organizations		Research Organizations	Private Sector
			Aboriginal	Non-Aboriginal		
218 (47%)	94 (20%)	36 (8%)	63 (14%)	16 (4%)	16 (4%)	12 (3%)

Figure 14: NEARBC Membership by Organizational Affiliation

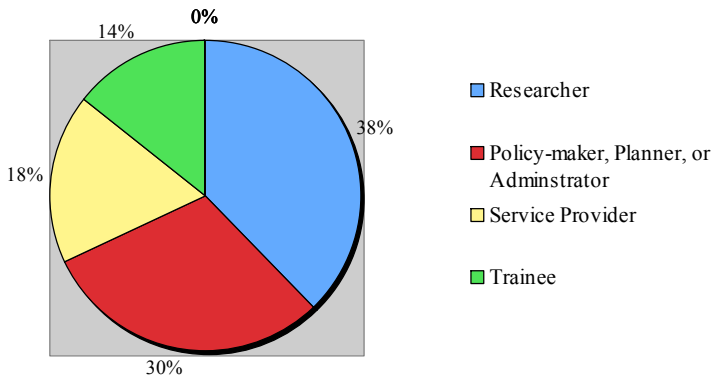


2. Breakdown of Network participants by primary occupation (*N* =437)

Table 10: NEARBC Membership by Primary Occupation

Researcher	Policy-maker/Planner/ Administrator	Service Provider	Trainee
165 (38%)	131 (30%)	78 (18%)	63 (14%)

Figure 15: NEARBC Membership by Primary Occupation



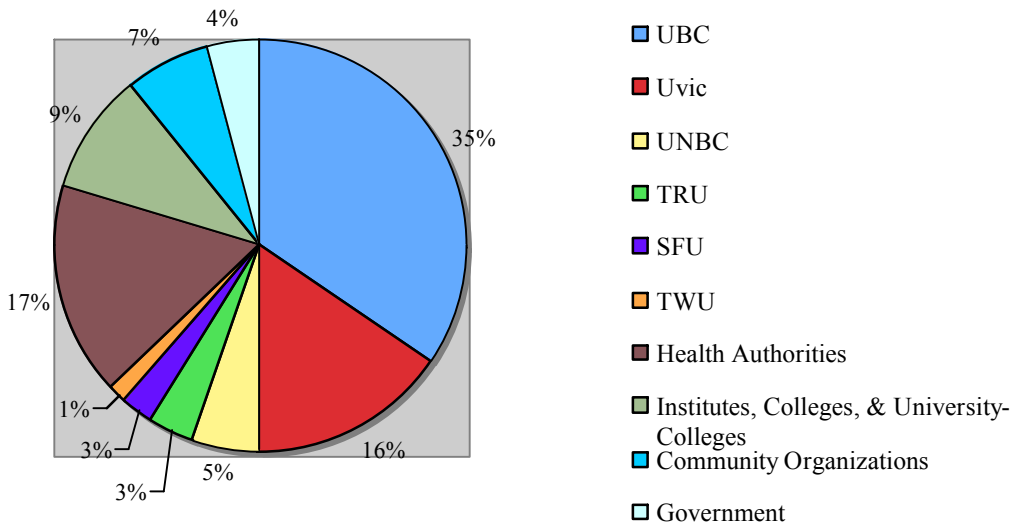
3. Breakdown of researchers by institution (*N* = 159)

Table 11: Breakdown of Researchers by Institution

BC Universities					
UBC	UVic	UNBC	TRU	SFU	TWU
51(33%)	23 (18%)	8 (6%)	5 (4%)	4 (3%)	2 (1%)

BC Health Authorities	**Institutes, Colleges & University-Colleges**	**Community Organizations**	**Government**
25 (16%)	14 (9%)	10 (6%)	6 (4%)

Figure 16: Breakdown of Researchers by Institution

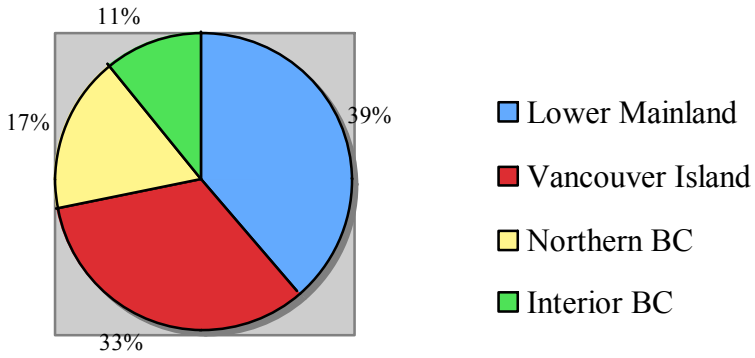


4. Breakdown of Network participants by geographic location (*N* = 469)

Table 12: Breakdown of Network participants by geographic location

Vancouver Island	Lower Mainland	Northern BC	Interior BC
150 (33%)	175 (39%)	79 (17%)	49 (11%)

Figure 17: NEARBC Membership by BC Geographic Location

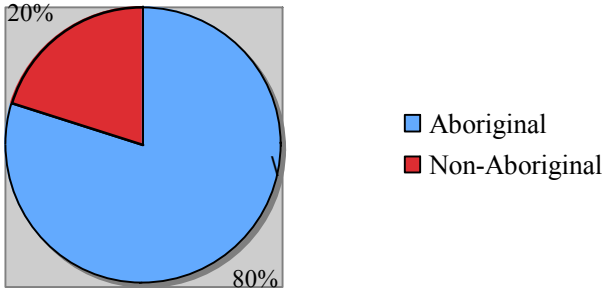


5. Breakdown of Network participants affiliated with community organizations (*N* =79)

Table 13: Breakdown of Community Organizations by Type

Community Organizations	
Aboriginal	Non-Aboriginal
63 (80%)	16 (20%)

Figure 18: Breakdown of Community Organization by Type



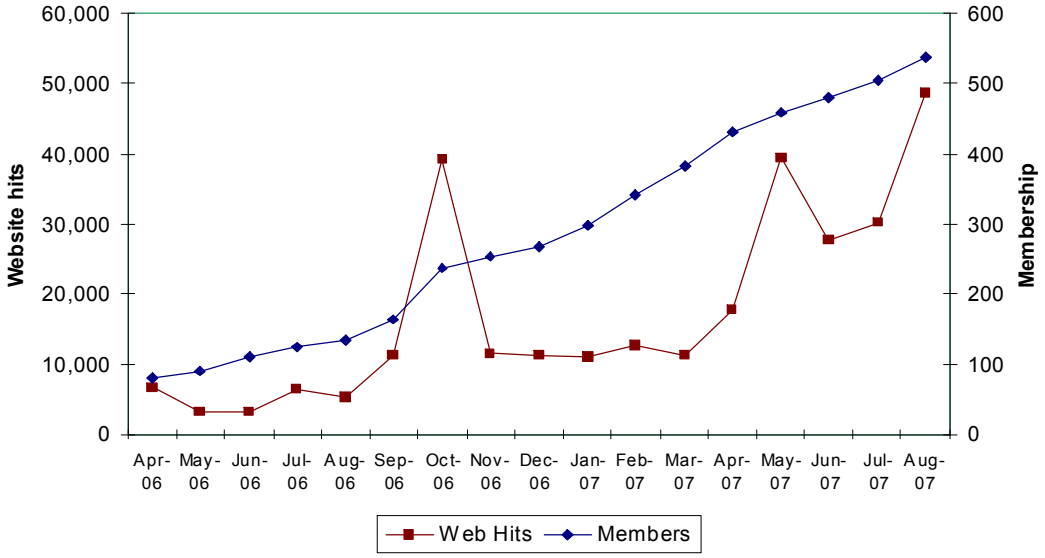
As these statistics show, NEARBC is a diverse network that has its roots in the research community and the post-secondary institutional system, as well as the Aboriginal community. Its geographic reach also shows that the development of the network is dependent, at this point, on the growth of its nodes.

NEARBC's Activities

A contributing factor to NEARBC's growth has been the development of activities that engage the membership, as well as the broader Aboriginal health research community. Because of the size of British Columbia and the distance between the nodes, much of NEARBC's communication relies on communications technology. As the Internet is one of the most common and popular tools for communication today, it is not surprising that much of NEARBC's work and activities are web-based. The success of these strategies is witnessed by the fact that NEARBC's website is increasingly seen as a resource for a broader community interested in Aboriginal health research.

As the Internet is one of the most common and popular tools for communication today, it is not surprising that much of NEARBC's work and activities are web-based. For example, the popularity of the website is depicted in the below graph in relation to the growth of the membership.

Figure 19: NEARBC Website Activity and Membership Growth



(Kmetic, Reading & Edgar, 2007)

While the growth in membership is an important factor in the growth of the website and its use, the website is increasingly seen as a resource for a broader community interested in Aboriginal health research. This has been achieved through several activities – website updates, the weekly e-news, the abstract database, and the members database – that engage both the membership and the broader community with the network's website and web-based materials. These are reviewed in greater detail below.

> **Website updates:** NEARBC's website is continually updated to include new information about funding and grant opportunities; resources, links, and publications related to Aboriginal health; and upcoming events and training opportunities in areas relevant to NEARBC's mandate (these events are also archived on the site). Because such a wealth of information can be found on the website, www.nearbc.com has become a well-recognized address for information about Aboriginal health research related issues in BC and Canada. This is also facilitated by other activities of the network, especially the weekly e-news that transmits the most current information to its members.
>
> **NEARBC's Weekly E-news:** The e-news is a weekly newsletter sent out by NEARBC's programs manager to all members via email. It includes the latest on upcoming events, conferences, research news, job opportunities, funding opportunities, etc. Because of the breadth of useful information and updates, the

> e-news has become a highlight of NEARBC membership and is seen as a great resource for all those involved in the field of Aboriginal health in BC
> **Abstract Database:** Officially launched on November 20, 2007, the abstract database was designed to be of use to both community members and academic researchers in order to help establish health priorities in Aboriginal communities in BC and develop or refine research questions. Five health areas – diabetes, cardiovascular diseases, fetal spectrum disorder, tobacco, and injury and suicide - are featured on the database. Each area has a wealth of information that is useful to both communities and researchers. The database can be accessed through it own page on the website (http://www.nearbc.ca/aboriginalhealth/). From this page, one can brose by category, do a basic keyword search, or do a more advanced search by author, title, source, year, or keyword. The present state of the database is stage one of three. Future stages will include more categories and health areas with peer-reviewed abstracts. Relevant and credible grey literature will also be integrated.
> **Members Database:** The recently developed members database provides access information on NEARBC members with an expertise in Aboriginal health. It was created to "facilitate collaboration and networking among health researchers, trainees, Aboriginal communities, Aboriginal and non-aboriginal community organizations, government, academic institutions and other research users in the field of Aboriginal health in British Columbia" (http://nearbc.ca/search/).

As seen above, NEARBC has focused a lot of energy on creating activities that engage its members, the universities in which the nodes exist, Aboriginal communities in the province, the regional health authorities, and the policy community. While this is often done through web-based efforts, NEARBC has also enabled these relationships through face-to-face interactions. One particular approach that NEARBC has utilized is the use of workshops. These workshops are developed and conducted by the nodes with the goal to engage researchers and communities in the various regions on key topics related to Aboriginal health research. A summary of the workshops put on by each node is summarized below.

Table 14: NEARBC's Nodes' Workshops

NEARBC Node	Workshop
Vancouver Island Node	"Vancouver Island Research Engagement Workshop," *Thunderbird Hall, Campbell River, October 19, 2007*
	Vancouver Island Node Workshop: Dr. Pierre Haddad, *Clearihue Building Room A301, University of Victoria, October 23, 2007*
	Ethics Workshop hosted by the NEARBC University of Victoria Node *Location: UVic University Club, Victoria, British Columbia, September 21,* 2000
	Community Research Engagement Workshops on Vancouver Island, November 2006 in Fort Rupert and March 2007 in Duncan.
Southern BC Node	Writing for Grants and Publication Summer Workshop, UBC Campus, August 10, 2007
Northern BC Node	NEARBC Aboriginal Health Research Gathering, Prince George, March 29-30, 2007

In addition to workshops, the nodes all offer ongoing funding opportunities in the form of "seed grants" to British Columbia based researchers in their region. Two types of seed grants are offered. The first is the "Exploratory Work" Grant, which is to be used to test research questions/methods or pilot data to support an application for research funding. The second seed grant offered is the "Research Team Development" Grant. This grant is to be used to enable academic and/or community-based researchers to prepare an application for research funding.

To date, few applications have been received for the seed grants and, therefore, NEARBC's nodes have not provided many seed grants. While this is disappointing, it is also understandable: the small amount of money that NEARBC can offer (up to $5000 without external review) is not enough for many researchers to undertake the consultations, explorations, and preliminary analyses required to initiate and stimulate their research projects. While there is no easy solution to this internally, as more money would require an external review by the network and the overall money for grants cannot

exceed 20% of the budget, the newly developed partnership with NEAHR BC-WA may open the door for larger grants to be developed and administered in the future.

NEARBC's Vision

While NEARBC's activities reflect the focus of its work on knowledge sharing and relationship building in Aboriginal health, its logo, which was developed by Coast Salish artist, LessLIE, highlights the importance of knowledge translation for its vision for the future.[18]

Figure 20: NEARBC's Logo

Description: In the spirit of spindle whorls, this circular Coast Salish design depicts four faces in a circle. The two obvious faces share the same sacred, circular middle mouth. This symbolizes sharing research and knowledge. The two faces at the perimeter of the design, mouths being formed by the negative circles of the foreheads, symbolizes members of the community bringing that knowledge and research into practical application within the community (quoted from "About the NEARBC logo and its artist" hyperlink at NEARBC, 2007a).

As this logo implies, NEARBC's broader vision is to: "improve and enhance the health and well-being of Aboriginal Peoples in BC" (NEARBC, 2006). To help it reach this vision, NEARBC is currently working with three consultants to strategically move the network from a formative phase to a growth phase. To date, the consultants have helped NEARBC draft a logic model, which they are now using to develop indicators for an evaluation framework.

[18] A brief biography of lessLIE (lessLIE.bio.pdf) can be found from the same link off NEARBC's website (NEARBC, 2007a).

NEARBC's Funding History

In order to meet its vision and continue to do the activities it does, NEARBC is reliant on funding from the Michael Smith Foundation for Health Research (MSFHR). Like the network's membership and activities, the granting history of NEARBC has been one of ongoing growth. When NEARBC was first funded in 2004, it received a budget of $250,000. NEARBC was reviewed by the Michael Smith Foundation for Health Research in 2007 and received an increase in funding from $250,000 (years 1 and 2) to $375,000 (year 3) to $500,000 (year 4). Further, it is expected that there will be a renewal or extension of the network before the network's mandate expires in 2008. The renewal or extension of the network is largely a result of its success as a "research enabling" network, which is discussed further in the body of the thesis.

In addition to the success of the network itself, the funding of NEARBC will also depend on its ability to collaborate with other research groups, networks, and institutions to build resources and develop new infrastructure. This is why it is important to discuss the development of an agreement between the MSFHR NEARBC, which is the case study of this research study, and the Canadian Institutes of Health Research's (CIHR) recently funded Network Environments for Aboriginal Health Research British Columbia – Western Arctic (NEAHR BC-WA).

The Canadian Institutes of Health Research's Institute of Aboriginal Peoples' Health (CIHR-IAPH) has funded eight Aboriginal Capacity and Developmental Research

Environment (ACADRE) centres since 2001. In 2007, however, when these centres were up for review, a new competition was launched – the Network Environments for Aboriginal Health Research (NEAHR). The reason for launching this new competition was to help stimulate the evolution of the Aboriginal health research community from a capacity building stage to a growth or networking stage and to enhance the development of regional expertise in Aboriginal health. On January 22, 2008, it was officially announced that 10 NEAHR's were funded (CIHR, 2008).[19] One of the centres funded has a mandate to network build Aboriginal health research capacity in British Columbia and the Western Arctic (NEAHR BC-WA). Because of the commonalities of NEAHR BC-WA and NEARBC, in their names and in their objectives, key officials from both networks (many of which have connections with both networks) met on December 6th and 7th, 2007 to discuss a partnership.

The development of a partnership agreement was a strategic move for the networks, their funding agencies, and more generally for Aboriginal health research in Western Canada: it will increase awareness about Aboriginal health research in BC, enhance the deliverables of both networks, and increase the overall money invested in BC (combined, the grants will mean that 1.1 million dollars will be strategically invested into Aboriginal health research in Western Canada). While this partnership is important to mention, as it will impact the future development of NEARBC, it is not the focus of this project and will not directly impact the development and discussion of this case study. This is because, this study was conducted within the case of NEARBC prior to

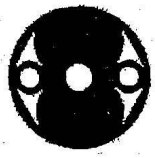
[19] The NEAHR's were unofficially announced in the Summer of 2007.

this merger, or only slightly thereafter when details were still begin worked out. As the agreement will also take a while to solidify and details be worked out, any direct discussion of the two networks would be speculative and largely unfounded. So just to clarify for the reader, therefore, it is the Michael Smith Foundation for Health Research funded NEARBC that has been the sole focus of this thesis.

APPENDIX D: NEARBC OVERSIGHT COMMITTEE APPROVAL

08/28/2007 03:54 6045240861 ROD E MCCORMICK PAGE 01

To: Liz Estey
250 472-5450



NETWORK ENVIRONMENTS for Aboriginal Research BC

Network Environments for Aboriginal Research BC
Oversight Committee

August 20, 2007

Dear Ms. Estey,

Thank you for your interest in partnering with the Network Environments for Aboriginal Research British Columbia (NEARBC) to engage in research in the emerging field of knowledge translation. As you have highlighted in your research proposal, little is known about knowledge translation, especially in the field of Aboriginal health. We are excited about your research project because it seeks to break new ground in an area where a pressing need clearly exists. Understanding how research can be more effectively and appropriately used to improve the health of Aboriginal peoples is an essential first step for work in this field.

As such, we are pleased to offer our support for your proposed knowledge translation research and encourage a partnership effort. We believe that this research will be a positive addition to the body of knowledge in the field of knowledge translation and will also help NEARBC participants examine their role, and NEARBC's role, in knowledge translation. We believe that this will stimulate the network, our partners, British Columbians, and Aboriginal and non-Aboriginal people across the country to examine the important connections between research and practice in the field of Aboriginal health. This will undoubtedly aid the important and necessary quest to improve Aboriginal peoples' health in Canada.

We look forward to assisting you and working with you on this worthwhile project.

Sincerely,

Dr. John Gilbert

Dr. Richard Vedan

Dr. Rod McCormick

APPENDIX E: ADDRESSING UNIQUE RELATIONSHIPS

While NEARBC offers a good context to examine the definition and application of knowledge translation within an Aboriginal health setting, its use as a case study for this research project required that some unique relationships be addressed.

The principal investigator (PI) of this project is the author of this Master's thesis, Elizabeth Estey. As a Master's student, the author is supported and guided by her co-supervisors and Advisory Committee members. As one co-supervisor, Dr. Jeffery Reading, and one committee member, Dr. Andrew Kmetic, are also the co-leaders of NEARBC, they occupy a unique position with regards to this research project. An explanation of this relationship and the methods used to manage it effectively is discussed below.

One potential concern with the nature of Drs. Reading and Kmetic's positions with regards to this research project is that the PI, as one of their students, would be placed in a "power-under" position[20]. To mitigate this, it was decided that they would work as a research team. Therefore, Drs. Reading and Kmetic (along with Dr. Jeremy Wilson, co-supervisor of the researcher's Master's degree) are considered co-investigators on the project. The benefit of this for the author was that mentorship was directly built into the structure of the research team. The author's position as the PI also ensured that she met

[20] "Power-under" is a term used in research ethics to refer to the position of a person may experience when one has power over them. In the case of this research study, it was the concern of the Human Research Ethics Review Board (HREB) at UVic that the power-over relationship that the researcher's co-supervisor/committee member may influence the critical perspective of the researcher.

the requirements of her Interdisciplinary Masters degree at the University of Victoria and was challenged to take responsibility as the primary researcher on the project. NEARBC also benefited from this structure, as the co-leaders were continually involved and integrated into the development of the project; presenting NEARBC with the opportunity to provide additional input into the research project as it progresses. Further, examining the concept of KT within the context of NEARBC is expected to highlight new understandings and perspectives about the network's KT focus, expose best practices, highlight areas for future development, and encourage positive learning, all of which will be useful as NEARBC looks to grow the network in the future.

In addition to their dual supervisory/co-investigator role, Drs. Reading and Kmetic are faced with another dual role – as co-investigators of this project and co-leaders of NEARBC. The concern with this dual role is that Drs. Reading and Kmetic could be seen as being in a power position vis-à-vis potential research participants associated with NEARBC. Their dual roles in this regard could also be read as a conflict of interest. However, this is not the case. As will be described in more detail in the following chapter, qualitative interviews were conducted with members of the oversight committee and node staff to uncover participants' perspectives of KT in Aboriginal health research population. Therefore, NEARBC is the setting within which KT is discussed and not the focus of an evaluation. As was discussed earlier, the structure of NEARBC also ensures that the co-leaders do not have power-over the Oversight Committee members or the nodes: the Oversight Committee is an independent advisory body and the nodes are

provided with block funding in order to work independently to meet the needs of the communities they serve.

While it is strongly believed that the nature of the co-leaders' position and involvement in this research project should not influence the involvement of NEARBC's staff and Oversight Committee members, the research team was aware that a *perceived* power-over relationship may still exist. In order to manage this, it was clearly stated in the recruitment and consent material that participants are "under no obligation by NEARBC to participate" and that one's participation (or lack of participation) will not impact their work with NEARBC. In addition to this, the PI was the sole contact for the research team throughout the research process, as she was in no actual, perceived, or potential power-over relationship with potential participants.[21] Further steps were taken when preparing the data for analysis. Here, the co-investigators/co-leaders of NEARBC did not have access to information documenting who participated and what they said. Instead, they only have access to the tagged data. This was an important measure to help ensure the privacy, anonymity, and confidentiality of the research participants.

[21] Although the researcher had met or knew of some of the participants prior to the research project, there was no power-over relationship or conflict of interest. This is because, in most cases, the relationships were at an acquaintance level and the researcher and participants did not work directly together, nor did their work impact that of the other.

APPENDIX F: THE RECRUITMENT PROCESS

Recruitment took place in a multi-stage process. The three main steps of recruitment are described below. The corresponding recruitment materials[22] are also provided below.

Step #1: Initial Recruitment Email

The initial contact of participants was done via email. The PI contacted desired research participants via email. In order to ensure confidentiality of all potential research participants, email addresses were suppressed or blind cc'd in group emails, or sent individually. Furthermore, co-investigators were not included on the emails, nor did they have access to information regarding who participated in the research. This was to help ensure that there was a necessary separation between the co-leaders and participants with regards to this research project. The researcher could not control, however, if participants chose to disclose to the co-leaders their participation. The email addresses of potential participants were obtained through NEARBC's website and brochures. A copy of the initial recruitment email is provided below.

Greetings!

You are being invited to voluntarily participate in a study entitled "What is Aboriginal Knowledge Translation? Exploring the connection between research and practice in an Aboriginal health setting" that is being conducted by myself, Elizabeth Estey, as a part of my Interdisciplinary Master's degree at the University of Victoria. This project has been

[22] The texts are presented as templates, as some were altered or tailored during the actual recruitment process. For example, while most of the correspondence for recruitment and participation was done using the email templates presented here, face-to-face discussions and phone conversations were also used. While the content of the information provided was not significantly different, it is important to note that different methods were used depending on the preference of the potential participant and their responses to the researcher.

developed in collaboration with the co-investigators of this project, Drs. Jeffery Reading and Andrew Kmetic. Although Drs. Reading and Kmetic are also co-leaders of NEARBC, you are under no obligation by NEARBC to participate.

If you choose to voluntarily participate in this research project, your participation will involve a one-hour long personal interview about your understanding of knowledge translation, as it pertains to your work or association with NEARBC. In order to help ensure that the information you provide is accurately understood and interpreted, a follow-up interview may also be required. A formal letter outlining the research project and the parameters of your participation is currently in the mail. An electronic copy of this letter is attached to this email for your immediate review and to keep for your records. Upon reading through this letter, you are encouraged to contact myself, the Principal Investigator (PI) of this project, to indicate whether you are interested in participating and/or if you would like to discuss or review the research project in greater depth.

For these or other reasons related to this research project, please feel free to contact me via email at lestey@uvic.ca or by phone at home at (250)-294-4148 or at work at (250)-472-5456. You may also use this contact information, as outlined in the information letter, to confirm your participation in the project.

Sincerely,

Elizabeth (Liz) Estey

Step #2: Information Letter

As seen above, the initial email sent out to potential participants outlined the intent of the research project. Attached with the text of this email, an electronic copy of a "letter of information" outlining the parameters of the research project and the process of informed consent. The "letter of Information" provided below is a copy of the original text sent via email to all participants as an attachment with the initial email outlined above. Participants were also mailed a printed version of the letter (on UVic letterhead); this was sent off on the same day as the initial email.

Greetings!

As indicated in the email that this letter is attached to, you are being invited to voluntarily participate in a research project entitled "What is Aboriginal Knowledge Translation? Exploring the connection between research and practice in the field of Aboriginal health." As developed in collaboration with co-investigators, Drs. Jeff Reading and Andrew Kmetic, who are also co-leaders of NEARBC, this project is the focus of my, Elizabeth Estey's, Interdisciplinary Masters degree at the University of Victoria. Despite the involvement of NEARBC's co-leaders in the project, you are under no obligation by NEARBC to participate. This project is being funded by the Social Sciences and Humanities Research Council (SSHRC) and is supported by the Aboriginal Health Research Group (AHRG) at the University of Victoria and the University's Faculty of Graduate Studies.

Overview of the Research Project

The health disparities experienced by Aboriginal peoples in Canada creates a dilemma for the country, which has long prided itself as being 'one of the best places to live in the world.' With researchers, policy-makers, and Aboriginal peoples all documenting this pattern of health disparity, it is logical to question: "How can research documenting this reality be employed to help improve Aboriginal health in Canada?" This is linked to a growing desire to understand the concept of "knowledge translation (KT)," the term used to describe the process(es) through which knowledge is turned into strategic action. Although KT discussions are evolving in the mainstream health literature, little has been invested in considering the implications of these evolving theories and strategies in an Aboriginal context. The objective of this research is to evaluate the literature on Aboriginal knowledge translation by examining what the concept of knowledge translation means within an Aboriginal health research context. NEARBC was chosen as the case study for this project because it provides a unique context in which to examine the idea of knowledge translation – it brings together researchers, community members, and health care practitioners through common interests and networking mechanism. Despite the focus on NEARBC, this study is not an evaluation of its KT practices. Rather it is an exploratory examination of the concept of KT from the perspective of those involved in a network that seeks to engage with this idea and who are perceived to have particular insight into the idea.

Participation

You are being asked to participate in this study because it is believed that your experiences and/or connections with NEARBC will enrich this study. You are, however, under no obligation by NEARBC to participate. Your participation in this study is voluntary; you may decline to participate without penalty or consequence to your work with NEARBC. You may also withdraw from the study at any time without penalty and without loss of benefits to which you would otherwise be entitled. If you withdraw from

the study before data collection is completed, you may choose to contribute the data that you have provided up to that point in the study. Alternatively, you may choose to have your data returned to you or destroyed. If you decide to withdraw from the study, an official letter will be developed in collaboration with the researcher to document your choice and ensure that there is common understanding of the departure.

If you voluntarily agree to participate in this research, approximately one hour of your time will be required for the completion of a personal interview. Follow-up discussions may also be required to clarify that the information you provide is understood and interpreted in appropriate ways. However, you have the right to not answer any question(s) you choose. Ten (10) to twelve (12) interviews will be conducted with individuals, like yourself, who are involved in or associated with NEARBC. These interviews are intended to take place in September and October 2007, likely at or near your respective NEARBC's node office or at the location of upcoming meetings and workshops.

Results

In accordance with the principles of knowledge translation, results from this research project will broadly disseminated through the network, conference presentations, academic papers, and other publications. It is hoped that these processes and the development of this research will stimulate further research in BC, Canada, and around the world. If you should wish to receive feedback regarding the study's findings, you may contact the PI (information below). Upon contact with the researcher, a hard copy or electronic version of the study can be sent to you. In order to ensure that the research is not inappropriately used and that participants remain protected following the dissemination of results, the data will be stored in anonymized form by the research team for 5 years.

Contacts and Next Steps

This research project has been reviewed and approved by the University of Victoria's Human Research Ethics Board. You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545; ethics@uvic.ca). Furthermore, Dr. Jeff Reading and Dr. Jeremy Wilson, who are the co-supervisors of my degree and full professors at the University, they can be contacted phone or email at: (250)-472-5456 and jreading@uvic.ca, and (250)-721-7485 and jwilson@uvic.ca, respectively.

If you are interested in participating in this project and/or learning more about it, please contact myself at lestey@uvic.ca or by phone at home at (250)-294-4148 or at work at (250)-472-5456. Once interest in the project is indicated, you will be sent a "Participant Consent Form" for further review and approval. Potential interview dates will also be discussed.

Thank you for taking the time to consider this important research project and I hope to hear from you in the near future.

Sincerely,

Elizabeth (Liz) Estey

Step #3: Follow-up Email

As outlined in the information letter, potential participants were asked to respond via email or telephone to the PI as to whether they were interested in participating in the project. If a response was not received within 2-3 weeks, a follow-up/reminder email was sent out. Once interest in participation was received, the PI communicated with interested participants via email. Any additional information desired was provided to participants and an appropriate time and place for the interview was mutually determined.

Dear Research Participant,

Thank you for your interest in participating in this important research project. In order to ensure that you understand the full parameters of your participation in this research project, I have attached a copy of the "Participant Consent Form" for your review (a hard copy of this form will be brought to the interview by myself for you to sign). I encourage you to read through this form to ensure you are comfortable with your role in this project. If you have any questions about it, please feel free to contact me. If you agree with the information in the consent form, the next step towards establishing our research partnership and beginning the data collection is to begin to arrange times to conduct a personal interview.

Where possible, interviews will be scheduled to correspond with NEARBC meetings and workshops already planned for the fall (i.e. the Fall ethics workshop at UVIC, Sept. 21 and the Annual Meeting in Vancouver, Oct. 1-2). Those located in Northern regions of the province or in remote communities will be targeted for these times, so as to help cut down on travel costs and time of both the research participants and the PI. Others will be arranged to take place in the Greater Victoria and Vancouver areas, likely at or near the NEARBC UVIC and UBC offices. If you could provide me with information as to

whether you will be attending these events, as well as your availability and location for the fall, I would be much appreciative. Where face-to-face interviews are not possible or where interviews cannot be effectively scheduled, phone interviews will take place.

Please contact me directly by email or phone to indicate this information. Just as a reminder, my contact information is provided below:
Email: lestey@uvic.ca
Phone: H: (250)-294-4148
W: (250)-472-5456

I look forward to hearing from you soon.

Sincerely,

Elizabeth (Liz) Estey

APPENDIX G: INTERVIEW GUIDE

Introduction

Purpose: To provide room for introductions to be made and to facilitate the process of informed consent. The process of obtaining informed consent is built into the interview guide to help ensure that an appropriate amount of time is spent reviewing, discussing, and improving the Participant Consent Form.

Basic greetings and introductions

Review and approval (signing) of Participant Consent Form by participant; any questions should be answered by researcher.

Ensure that permission is given from the participants for the interviews to be taped.

Introductory Questions

Purpose: To try and get a full picture of the role of the interviewee in or in association with the network – explained in their own words and not in the terms of their job description. This will provide insight into their perspective on KT and also acquaint the researcher with their work experiences.

1. What is your association with NEARBC?

2. How and why did you become involved with the network?

3. What is your day-to-day experience(s) with the network?

Main Questions

Purpose: To elicit participants' perspectives on knowledge translation in relation to the discourse on Aboriginal KT in the literature. As such, questions are informed by the researcher's reading of the KT literature and her perspectives on the evolving Aboriginal KT discourse outlined in the conceptual framework. These questions are also sought to be related to NEARBC to facilitate a discussion of KT within a context common to the participants.

4. As stated on the website: "NEARBC is working to bring creative minds together throughout BC to create a platform for knowledge transfer across organizational and functional boundaries". What does the term "knowledge transfer" in this statement mean to you?

5. The Canadian Institutes of Health Research (CIHR) uses the term knowledge translation rather than knowledge transfer. Do you think this is a more useful or accurate term? Why or why not?

a) Provide CIHR definition of KT if needed. The CIHR defines KT as: *"the exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users - to accelerate the capture of the benefits of research for Canadians through improved health, more effective services and products, and a strengthened health care system".*

6. Would you define the term differently if you were using the term knowledge translation instead of knowledge transfer?

7. Other than knowledge transfer and knowledge translation, are there any other words you would use to describe this concept, term, or understanding? Why or why not?

8. Based on the definition(s) you have provided, can you explain how you know or would know that KT is occurring in practice?

a) In other words, how would you or do you identify that you or someone else is "doing KT"?

9. At what point in the research process (i.e. proposal, ethics, data collection, analysis, dissemination) do you think knowledge translation does or should take place?

10. Do you think that the concept of KT, as you perceive it, is an important part of your work with NEARBC? Can you provide some examples of why or why not?

a) Would you consider yourself to have a role in knowledge translation? If so, how? As an individual, as a member of NEARBC, or in another capacity? If not, why not?

b) Who else, if anyone, do you think does or should play a role in knowledge translation?

11. As you understand the concept, do you think that KT is important for Aboriginal health research? Why or why not? Please provide some examples.

a) If I were to say the term 'Aboriginal knowledge translation', what would it mean to you? If so, what? If not, why not?

b) In your opinion, is there something unique about knowledge translation in an Aboriginal context? If so, why? If not, why not?

Concluding Questions/Comments

Purpose: To thank participants for their time and to ensure that participants are satisfied with leaving the discussion as is.

12. Are there any outstanding areas you would like to address or anything else you would like you share with regards to your understanding of knowledge translation in Aboriginal health?

Thank participants for their time and for sharing their ideas.

Remind participants that they may be contacted later in the research process to follow-up on some questions and/or to confirm some of their answers.

APPENDIX H: PARTICIPANT CONSENT FORM

The Participant Consent Form provided below is a copy of the original text. Participants, however, were provided with a printed version of the letter (on UVic letterhead) at the beginning of each interview. It was this official printed version that was signed and dated by each participant.

Introduction

Due to your involvement with the Networks Environments for Aboriginal Research British Columbia (NEARBC), you have been invited to voluntarily participate in a study entitled "What is Aboriginal Knowledge Translation? Exploring the connection between research and practice in an Aboriginal health setting" that is being conducted by Elizabeth Estey, as part of her Interdisciplinary Master's degree at the University of Victoria. This project has been developed in collaboration with co-investigators, Drs. Jeff Reading and Andrew Kmetic, who are also co-leaders of NEARBC, and has received the support of NEARBC's Oversight Committee. Despite the involvement of NEARBC's co-leaders in the project, you are under no obligation by NEARBC to participate. This project is being funded by the Social Sciences and Humanities Research Council (SSHRC) and is supported by the Aboriginal Health Research Group (AHRG) at the University of Victoria and the University's Faculty of Graduate Studies.

Overview of the Research Project

Although KT discussions are evolving in the mainstream health literature, little has been invested in considering the implications of these evolving theories and strategies in an Aboriginal context. The objective of this research is to evaluate the literature on Aboriginal knowledge translation by examining what the concept of knowledge translation means within an Aboriginal health research context. NEARBC was chosen as the case study for this project because it provides a unique context in which to examine the idea of knowledge translation – it brings together researchers, community members, and health care practitioners interested in Aboriginal health issues. Despite the focus on NEARBC, this study is not an evaluation of this network's KT practices. Rather it is an exploratory examination of the concept of KT from the perspective of those involved in a network that seeks to engage with this idea and who are perceived to have particular insight into the idea.

Participation

You are being asked to participate in this study because it is believed that your experiences and/or connections with NEARBC will enrich this study. You are, however, under no obligation by NEARBC to participate. Your participation in this study is voluntary; you may decline to participate without penalty or consequence to your work with NEARBC. You may also withdraw from the study at any time without penalty. If you withdraw from the study before data collection is completed, you may choose to contribute the data that you have provided up to that point in the study. Alternatively, you may choose to have your data returned to you or destroyed. If you decide to withdraw from the study, an official letter will be developed in collaboration with the researcher to document your choice and ensure that there is common understanding of the departure. If you voluntarily agree to participate in this research, approximately one hour of your time will be required for the completion of a personal interview. In order to clarify that the information you provide is understood and interpreted in appropriate ways, another half-hour may also be required for a follow-up interview or discussion. You are under no obligation to participate in the follow-up interview, or any other aspect of this research project, and have the right to not answer any question(s) you choose.

Ten (10) to twelve (12) interviews will be conducted with individuals, like yourself, who are involved in or associated with NEARBC. Where possible, interviews will be scheduled to correspond with NEARBC meetings and workshops already planned for the fall (i.e. fall ethics workshop at UVIC, Sept. 21 and the Annual Meeting in Vancouver, Oct. 1-2). Those located in Northern regions of the province or in remote communities will be targeted for these times, so as to help cut down on travel costs and time of both the research participants and the Principal Investigator (PI), Elizabeth Estey. Others will be arranged to take place in the Greater Victoria and Vancouver areas, likely at or near the NEARBC UVIC and UBC node offices. Where face-to-face interviews are not possible, phone interviews will take place.

Because of the study's small sample size and the nature of your relation to NEARBC, it cannot be guaranteed that your role in the study will be able to be kept anonymous. However, several steps will be taken to help ensure the privacy and the confidentiality of your personal information and participation. At all times, data will be stored in a locked filing cabinet or on a password-protected computer in a locked office at the University of Victoria. Furthermore, once the data is transcribed, audio files will be deleted and data anonymously tagged. Only the PI will possess the key that links the real names and positions with the anonymized tags. As such, the co-investigators/co-leaders of NEARBC will not have access to information documenting who participated and what they said. Instead, they will only have access to the tagged data and will be involved in the analysis and interpretation of the data collected. This will help ensure the privacy, anonymity, and confidentiality of you, the research participant, and manage the unique relationship that Drs. Reading and Kmetic have with participants as both co-investigators and co-leaders of NEARBC. Beyond potential limits to the anonymity and

confidentiality of your data and inconvenience of time, no other risks are expected to be incurred by participation in this research project. However, it is expected that this research will positively provide you with the opportunity to reflect on the role of KT in your life and work, as well as its role in the broader field of Aboriginal health and aid the growing desire to understand what knowledge translation means in an Aboriginal health setting.

Results

In accordance with the principles of knowledge translation, results from this research project will be broadly disseminated through the network, conference presentations, publications, and other academic papers and/or projects. Quotations from interviews may be included in documents and dissemination materials, but names and/or any potentially identifying information will be changed or omitted. As this is an exploratory project, it is hoped that these processes and the development of this research will stimulate further research in BC, Canada, and around the world. In order to ensure that the research is not inappropriately used and that participants remain protected throughout all intended and potential usages of the data, it will be accessed for further analysis and ongoing usage in its anonymized form and by or through the members of this project's research team. This data will remain stored in this form by the research team for 5 years, at which time it will be destroyed. If you should wish to personally receive feedback regarding the study's findings, you may contact the PI (information below). Upon contact with the research, a hard copy or electronic version of the study can be sent to you.

Contacts

This research project has been reviewed and approved by the University of Victoria's Human Research Ethics Board. You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca). This research has also received the support of Elizabeth Estey's Interdisciplinary Masters Committee. Dr. Jeff Reading and Dr. Jeremy Wilson, Elizabeth's co-supervisors and full professors at the University, can be contacted phone or email at: (250)-472-5456 and jreading@uvic.ca, and (250)-721-7485 and jwilson@uvic.ca, respectively. If you wish to speak with Elizabeth directly, she can be contacted by phone at (250)-294-4148 (H) or (250)-472-5456 (W); she can also be contacted via email at lestey@uvic.ca.

Informed Consent

If anything in this document is unclear or you are unsure of your role now or at any time throughout the research project, you are invited to direct your questions and comments to Elizabeth and her research team. If you at any time have any disagreement with the research project or the research team, you are encouraged to discuss your concerns with the research team or NEARBC's Oversight Committee. As the Oversight Committee has provided support for this project on behalf of the network, they can act as a third party to

bring your concerns to the research team. Their contact information can be found via the NEARBC's website: http://www.nearbc.ca/about-oversight-committee.html. Your signature below indicates that you understand and agree to the above conditions of participation in this study.

Name of Participant	*Signature*	*Date*

*****A copy of this consent will be left with you, and the researcher will take a copy*****