# FELLOWSHIP PROJECT MANUSCRIPT

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**Ronald Raymond Lindstrom, PhD, CHE**
**Consultant, Health Services Research**
**Abbotsford, B.C.**

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# Executive Summary

A growing recognition of the need for participatory health services research requires multiple stakeholder collaboration between researchers, clinical service providers, managerial and policy decision-makers, and the public. Recent Canadian provincial and federal reports support the need for participatory inquiry, yet little is being done in practice. This thesis explores a community-based participatory research process for planning child and youth health services and proposes methods to close the gap between research and practice.

The study took place in the North West Health Service Delivery Area of British Columbia. This large geographic region represents over one-quarter of the provincial land mass, yet is home to <90,000 people. Approximately 30% are children and youth 19 years of age and under. Approximately 22% of the residents are Aboriginal.

A participatory research approach was used with a mixed methods design. The priority component was qualitative. Qualitative data were collected and integrated through a unique sequence of methods, including semi-structured interviews, focus groups, and a search conference. Qualitative data were analyzed using a constructivist grounded theory method. The nested component was quantitative. Quantitative data were accessed from a provincial health services utilization database. Geographic information systems (GIS) software was used as a tool to map selected data, which was incorporated into the search conference.

Three general conceptual categories emerged from the data: perceptivity about, emotivity generated by, and inclusivity in, the health system. Two core conceptual categories emerged: boundaries and boundary objects. Three knowledge boundaries were introduced: syntactic, semantic, and pragmatic, building upon and supporting empirical research on innovation and technology development. This study proposes a fourth knowledge boundary: phronetic. The characteristics of boundary objects occupying this phronetic boundary are fluid, real-time, participatory, and collaborative in locally-situated, multi-stakeholder, boundary-crossing settings. These boundary objects facilitate the melding of knowledge and action in ways that are relevant to stakeholders in their local realities. A conceptual framework is proposed to guide and unify participatory research and planning processes.

This research is expected to lead to more effective multi-stakeholder, community-based approaches to the planning and development of network models for child and youth health services.

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# CHAPTER ONE: Introduction

## The Problem

Despite growing evidence in the academic and grey literature, including numerous federal and provincial commissions and reports on health reform, a participatory approach to planning health services has seen little uptake. Health system reform and redesign in British Columbia (BC) specifically included goals of community participation and local input into planning and decision-making (BC Ministry of Health Planning [BCMOHP], 2001a, 2002a; BC Ministry of Health Services [BCMOHS], 2005a; BC Royal Commission on Health Care and Costs, 1991). Yet, there is surprisingly little follow-through at the community level.

Similarly, health services planning practices remain at odds with research evidence. As Gray (1997, p. 1) poignantly observes, "[a]t present, many healthcare decisions are based principally on values and resources – opinion-based decision-making; little attention has been given or is paid to evidence derived from research – the scientific factor." In this vein, the National Forum on Health (1997) warns of the gaps in, and misuse of, evidence. This report notes that means have yet to be developed to assist decision-makers, and highlights the demand by patients for greater involvement in decision-making.

# The Aim of this Study

The aim of this study is to explore a community-based participatory process for planning child and youth health services in a rural area of BC, and to close the gap between what the research is saying and what is being practised. This will be accomplished through an emphasis on a multiple stakeholder, community-based participatory research and planning process. The study does not attempt to identify the actual health service needs. These needs will be identified through a sustainable, community-based planning process at the local level resulting from, and contiguous with, this study. While there was no guarantee at the outset, I expected that this research approach would help to empower community stakeholders and facilitate sustained action at the local level once the groundwork created by the study was completed. In this way, I anticipated that the study would be relevant in three ways. First, as a participatory research approach, it would model how to go about child and youth health services planning at the rural local level in the context of, but not directed or dominated by, the broader health system. Second, this approach would facilitate action to address, be relevant to, and respectful of, the nuances of local communities throughout the North West. Third, this participatory research and planning process could be adopted in other jurisdictions in British Columbia, perhaps even more broadly. If successful, it could also serve as a model for collaborative planning in other population groups, such as the elderly who present comparable health service planning challenges at the other end of the life-cycle.

## The Research Questions

In qualitative research, it is not uncommon for the preliminary research question(s) to evolve and become more refined over the course of the study. This is especially true when (a) a participatory research approach is taken, (b) participants are invited to be co-researchers, and (c) there is an expectation of an emergence of ideas over time, as is the expectation here. The preliminary, central, multiple research question was initially posed as: What is the process by which child and youth health service needs can be identified and understood, how can this process guide the development and utilization of health services, and how can this process inform evidence-based practice by decision-makers?

Indeed, the research question did evolve during the course of the study. The question of "what is the process…" was refined to: How does a participatory research process inform planning and guide stakeholders involved in child and youth health services in North West BC? I was made aware early in the data-gathering phase that a participatory approach was desired; less clear was how to effectively conduct it. In that respect, the study itself became a means, a process, and a real-time journey for conducting research and creating action, together with the participants. This emergent role is discussed in the findings in Chapter Four.

Additionally, there were three preliminary sub-questions: How can a complex, adaptive systems lens assist in reframing multi-stakeholder conceptualization of the health system? How can community be (re)defined, and how does multi-stakeholder involvement contribute to community-based participatory planning processes for child and youth health services? What is the role of health care geography in understanding the spatial characteristics of health services utilization, and how can this be used in participatory planning processes? These sub-questions essentially stood; however, they were addressed from my perspective as researcher, not from the perspectives of the study participants as I had originally, and perhaps naively, envisioned.

## The Significance of this Study

This study is significant in how it approaches the research problem, conducts the research, and links research and practice in order to address the complex health services issues facing children, youth, and families in North West BC. Equally significant is the on-going challenge of incorporating research findings into the “real world of health service delivery” (Saunders & Wanke, 1996, p. 34). As this study is concluding, it is noteworthy that the BC government has just recently publicly recognized, and de facto endorsed, a particular health services research strategy for children and families (BCMCFD, 2005a):

> Research confirms that collaborative planning and decision-making, and integrated service delivery for social programs that best reflect and meet the local needs of children and their families, are most likely to serve communities well and maximize positive, effective results from available resources (p. 5).

This Ministerial-level acknowledgement highlights the importance of health services research on the complex issues related to child and youth health. How to use such research to address a number of key factors remains unclear, but such research should: (a) involve multiple stakeholders in the health system to gain a broader perspective, (b) be participatory and collaborative, (c) integrate research and practice, (d) derive and integrate key concepts from multiple disciplines, (e) include both research and action components to effect change (particularly at the local level of relevance), and (f) address the issues across the local community level to the health system level. This study incorporates these components in striving to attain integrated health services for children and youth in North West BC.

## Delimitations of the Study

Delimitations are factors that are controlled by the researcher, as opposed to limitations which may affect a study, but are not under the researcher's control (Roberts, 2004). The main study period extended from Summer, 2003 to Spring, 2006. The study site was confined to nine Local Health Areas (LHAs) comprising the North West Health Service Delivery Area (HSDA), one of three HSDAs in the NHA.

A limitation (as opposed to delimitation) of the study, was that the Nisga'a Health Authority declined to participate. The reasons for this are outlined in Chapter Three. However, given the broader health system perspective that I believed essential to this study, several participants were identified and invited from other geographical areas, including: NHA corporate offices in Prince George; BC Children's Hospital (an agency of the Provincial Health Services Authority [PHSA]) in Vancouver; First Nations and Inuit Health Branch (FNIHB) of Health Canada in Vancouver; Ministry of Health

Services in Victoria, and, BC Provincial Government Social Policy Integration Team in Victoria.

I delimited participants to four stakeholder groups: (a) general public/service recipients, (b) clinical service providers, (c) managerial decision-makers, and (d) policy decision-makers.

## A Road Map

This manuscript consists of five chapters and is organized as follows. Chapter One introduces the issues under study; the research and why it is relevant; and, a road map to stay on the journey's intended path.

Chapter Two reviews the pertinent academic and gray literature, including a number of government, organization, and agency reports, papers, and commissions relevant to the health system and services at the federal and provincial levels. The scholarly literature relevant to four themes is reviewed, including: (a) complex, adaptive systems; (b) participatory research; (c) health care geography; and, (d) knowledge translation. Literature on boundaries and boundary objects is deferred until Chapter Five and introduced in the context of the findings.

Chapter Three discusses the research methodology used in this study. It includes a dominant qualitative component and a nested quantitative component. Included in this chapter are: (a) ethics and research review committee approvals for the conduct of the research; (b) gaining access to the research site; (c) mixed methods (priority qualitative and nested quantitative) design used in this study; (d) sampling process; (e) data gathering methods (semi-structured interviews; focus groups; search conference); (f) quantitative component; (g) data analysis (qualitative and quantitative); (h) grounded theory and constructivist grounded theory approach; (i) qualitative authenticity criteria; and, (j) quantitative component.

Chapter Four introduces and discusses the study's findings. Three major conceptual categories are developed from the initial analysis of early data, including: (a) perceptivity about the health system, (b) emotivity generated by the health system, and (c) inclusivity in the health system. A common thread is developed around numerous dyadic[1] relationships. This brings us to the concepts of boundaries and boundary objects, which are developed in the context of a classification of knowledge boundaries and related boundary objects. An existing model is explored to introduce the concepts. I then develop a model in the context of public sector health services planning in the North West based on the concepts generated from the data. This chapter also explores how to apply the findings to planning child and youth health services, bridging theory and practice settings.

Chapter Five explores several interface dynamics in different contexts and how they might be applied in practical terms. Based on the findings in this study, a model is introduced that melds research and planning practice. Insights and implications for each of the stakeholder groups engaged in this study (public, clinicians, managers, and policy-

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[1] The term dyad, for the purposes of this dissertation, refers to a binary relationship in which there are two parts, regarded as one. This is conceptually different from a dualistic relationship in which there are two independent and separable realms (Angeles, 1981).

makers) are offered. A number of key recommendations for future research, building on the findings generated in the study, are suggested.

# CHAPTER TWO: Review of the Literature

## Introduction

There is a considerable amount of scholarly and grey literature in health services research and service delivery. These emanate from, for example, provincial and federal government branches, ministries, and departments; non-governmental organizations, associations, and institutes; funding agencies; and, health authorities. From a scholarly perspective, this study incorporates literature from a broad range of academic disciplines relevant to health services research and delivery. From the perspective of the grey literature, a myriad of sources are available, such as reports, discussion papers, position papers, conference proceedings, and commissions. There are significant challenges to effectively framing the breadth and depth of the core and related issues concerning health services research and service delivery, in particular those concerning children and youth. Balancing relevant content across the disparate and burgeoning sources (to achieve breadth across disciplines) with comprehensiveness (to achieve depth within disciplines) is particularly important. I elected to organize this journey into the literature as follows. There are two sets of literature. In this Chapter, I provide an overview of the health system, incorporating literature relevant to the recently reformed health system in BC. The examples provided are intended to be illustrative of the complexity and number of initiatives underway, not a comprehensive listing. I then explore four fields of studies—(a) complex adaptive systems, to help make sense of the term *system* in the health system; (b) participatory research; (c) healthcare geography; and, (d) knowledge translation. Then, in Chapter Five, I explore literature specific to the concepts that emerged as this research progressed—boundaries and boundary objects. Discussion of this latter body of literature is deliberately delayed in the context of grounded theory and the emergence of the core categories, boundaries and boundary objects.

## The British Columbia Health System

In the late 1990s, the BC Ministry of Health and Ministry Responsible for Seniors created a Strategic Directions document building on health goals developed by the provincial health officer. This was intended to complement the health authorities' Health Service Plans and the Ministry's more detailed work plan. The document recognizes the need for a "strong planning approach" to accomplish anticipated change (BCMOH, 1999, p. 1). The need for broader community involvement is raised.

Beginning in 2001, the British Columbia health system underwent a major restructuring by the then newly elected Liberal government. Ostensibly, this was to correct the complicated, confusing, and expensive array of the extant 52 health boards, councils, and health services societies (BCMOHP, 2001a). This earlier complex structure had been created under the political party of the day, the New Democratic Party, in order to move decision-making and responsibility "closer to home" (BC Royal Commission on Health Care and Costs, 1991). This initiative was subsequently criticized for a variety of reasons, for example, issues of timely access, long waitlists, and fragmented services (BCMOHP, 2001a). The again-reformed (and still current) structure includes a number of components. The Provincial Health Services Authority (PHSA), a first in Canada, is responsible for planning, coordinating, and providing specialized services and provincial programs, and ensuring equitable access to health services. Five geographic Health Authorities (HAs) are responsible, on a regional basis, for governing, identifying regional needs, planning health services, and funding and management. Fifteen Health Service Delivery Areas (HSDAs) are responsible for managing health service delivery and ensuring that communities have protected local input into health service delivery (BCMOHP, 2001a). At that time, two Health Ministries were created: a Ministry of Health Services to oversee the day-to-day operations; and a Ministry of Health Planning, another first in Canada, to concentrate on policy-related issues and future needs. Additionally, two Ministers of State, yet another first in Canada, were responsible for mental health and home and community care (BCMOHP, 2002a). Other notable features of the reformed provincial health system include performance contracts for health authorities, a rolling three-year funding model, population-based funding, consolidation of acute care services, and access standards and acute care guidelines (BCMOHP, 2002a). However, the BCMOHP was abruptly disbanded shortly thereafter with limited public explanation.

In 2004, The Federal First Ministers agreed to a "Ten Year Plan to Strengthen Health Care", the top priority of which is to improve access and reduce wait times (BCMOHS, 2005a, p. 12). Thanks to this agreement, BC expects to receive $5.4 billion in new federal funding over the next 10 years, which will be used to address a number of priority areas. This specifically includes addressing access and service issues for youth addiction and the early screening of children. Consequently, the BCMOHS, in its 2005/06 – 2007/08 Service Plan, includes a number of goals, objectives, strategies, and performance measures to guide its mission. It is illuminating to briefly review how this is envisioned to unfold in order to demonstrate the complexity associated with even one or two objectives from the perspective of government. Take, for example, the goal of “high quality patient care” (p. 21). One objective is concerned with “[t]imely access to appropriate health services by the appropriate provider in the appropriate setting” (p. 21). It is interesting to read that:

> The ministry and its partners have been working diligently over the past three years to ensure hospitals, community services and health professionals are used in the most efficient and effective way possible so that people get the right type of care in the right type of setting that will lead to the best possible outcome. (p. 21)

Moreover, the latest Annual Service Plan Report (2004/05) of the BCMOHS, in reference to the past four years of fundamental reforms and structural changes, boasts “improved access to care, integration of services and providers, and outcomes for patients” (BCMOHS, 2005b, p. 5).

Another objective is the “[i]mproved integration of health care providers, processes and systems to allow patients to move seamlessly through the system.” This objective, however, focuses only on mental health and addiction services. Strategies include, for example, “[p]roviding a full continuum of mental health and addiction services within each health authority, which better integrates primary, secondary, community and tertiary care and is integrated within the large care networks” (BCMOHS, 2005b, p. 26). This strategy is silent on children, but specifically addresses youth addictions. While confusing, the reason for this is entangled in the mandate of the BCMCFD.

The BCMCFD (2005b), like the BCMOHS, is self-laudatory about its accomplishments, claiming, for example:

> Over the past four years, we have been working toward making programs and services more responsive to the people that we serve, by redesigning our service delivery system to be more community-based. The ministry made progress in 2004/05, bringing services closer to communities and families while protecting health and safety. (p. 5)

Although the BCMOHS and the BCMCFD make such unsubstantiated claims, they do not correspond with the perspectives of multiple stakeholders participating in my study, which was conducted within this same general timeframe. Indeed, the recent BC Children and Youth Review (Hughes, 2006) is highly critical of, and specifically targets, the current Liberal government's significant budget cuts for creating untenable instability and confusion in the BCMCFD.

Moreover, the BCMCFD (2005a, p. 3), in its 2005/06 – 2007/08 Service Plan, advised that it "is shifting from centralized, provincial delivery of services to a community-based model that supports a sustainable, more integrated system to best meet the needs of vulnerable people….Strong partnerships and collaborative relationships with stakeholders and community partners are also critical to [their] success." Their mandate includes a number of areas related to the safety and wellbeing of Aboriginal and non-Aboriginal children, youth, and families, in particular, those who are vulnerable. Additionally, the provincial Child and Youth Mental Health Plan for British Columbia (BCMCFD, 2004) is part of its provincial services mandate. More recently, a new independent Crown corporation has been created to deliver services to people with developmental disabilities (BCMCFD, 2005c). This includes joint responsibility for services to children and youth with special needs (Community Living BC, 2005).

Finally, the BCMOHS has just recently taken on the role of being a “steward of the system and less on being a direct service provider.” (BCMOHS, 2005a, p. 7). In this capacity, it provides leadership and support to, and a corporate management role for, health authorities and other partners in the provincial health system.

Following this overview of reform and regionalization at the provincial level, I now turn to the regional level, specifically the Northern region of BC and the context of this study. The next section provides a summary of this large and predominantly rural and remote region.

## The Northern Health Authority

Since 2001, the Northern Health Authority (NHA) has been responsible for the delivery of health services in northern BC (NHA, 2006). The NHA’s 2004/05 operating budget is approximately $448 million per annum, and it employs some 6,000 staff (in approximately 4,000 full-time equivalent positions). The NHA’s geographic responsibility covers approximately two-thirds of the province. This very large region is home to approximately 307,000 people (2005), representing 7% of the provincial population (BC Ministry of Labour and Citizens’ Services, 2006). Twenty-nine percent of the population is less than 20 years of age, compared to a BC average of 23%. The number of children and youth is expected to decrease in all health authorities over the next five years. Thirteen percent of the population is Aboriginal, the highest proportion in the province.

The NHA is governed by a 10-member board comprised of individuals appointed from throughout the North. It employs a single Chief Executive Officer under whom is a management structure that includes a Chief Operating Officer in each of three HSDAs (North West, North Interior, North East). A regional Aboriginal health policy and planning program is implemented as part of the NHA's commitment to improving Aboriginal health (NHA, 2002).

Throughout the province, the HSDAs are responsible "to ensure community participation in health care decision-making and protect local input into the delivery of health services." (BCMOHP, 2001a, p. 3). In keeping with this, each of the three HSDAs in the NHA has explicitly stated that their responsibilities include "ensuring public and stakeholder input into health services planning and evaluation in the area." (NHA, 2002, n.p.). Performance-based management and accountability occurs as follows: The HSDAs are accountable to the HAs; the HAs are responsible for delivery of services within their geographical area; the PHSA works with the HAs to plan and coordinate care (and also operates and manages provincial health services); and, the MOHP and MOHS hold the HAs accountable for fulfilling their responsibilities (BCMOHP, 2001a). Finally, New Era reform includes three-year Service Plans, which address the provincial government's (and both the BCMOHP's and BCMOHS's) strategic context (planning, vision, mission, values, and strategic shifts), goals, strategies, objectives, performance measures, and targets (BCMOHS, 2002b).

# Complex Adaptive Systems (CAS)

## Introduction

The health system is a complex adaptive system in terms of being a purposeful, organic, and changing network of socially-constructed relationships serving the common purpose of helping to improve the health status of the population. The extent to which these relationships work collectively, as opposed to working as parts separated by structural and functional barriers, determines how system-like the system behaves. Thus, it is important to conceptualize and understand a system, such as our health system, in ways that honour and respect system properties. Otherwise, serious attempts to change the system, its parts, its relationships, and its behaviour are, at best, naïve and will add to the large number of health system changes that clearly have not resulted in a well-functioning system.

Given that the health system is in large part composed of people, it follows that there are significant social and political aspects to the system. These characteristics do not conflict with those of CAS. As Flood (1999, p. 87) notes, "[h]uman systems are adaptive…involv[ing] many people, each with their own interpretations and experiences of social rules and practices that affect them." CAS helps us to appreciate and understand such unpredictability and the dynamics created, including how people interact with each other and the tensions that arise in these social constructs. Similarly, Stacey (1992) suggests that political interaction plays an important self-organizing role as an expected characteristic of unpredictable complex systems.

Exploring CAS will offer multiple and differing perspectives on the health system and some insights into why our understanding of, and traditional approaches to, planning and policy-making in the health system within the public sector arena have not worked very well. Glouberman (2001), for example, examines the role of CAS in the health policy environment and why it is important to reframe our approach to thinking about health policy development. And, Haynes (2003, p. 28) observes that "[p]ublic services are classic examples of complex adaptive systems." Hence, my decision to employ this perspective.

A system is a set of inter-connected and inter-dependent parts that function together as a whole towards a common purpose (Capra, 1982; Flood, 1999; Kauffman, 1980; Plsek & Greenhalgh, 2001; Reason, 1980; Zimmerman, Lindberg, & Plesk, 1998). A system is an inseparable whole, knowable only as itself, and is irreducible (Wheatley & Kellner-Rogers, 1996). A system can also exist as part of another system (holon). A system can be extremely small (particle fields) or extremely large (solar); closed to the environment (diagnostic equipment) or open (ecosystem); relatively simple (hospital parking card reader) or highly complex (health services delivery).

## Characteristics of Complexity and CAS

What is it about complex systems that makes them complex? These characteristics are well-described in the literature, for example, Bar-Yam (1997); Capra (1982, 1996); Cilliers (1998); Murthy (2000); Zimmerman, Lindberg, & Plsek (1998). Of these, the description by Cillers (1998) is particularly apropos to our exploration. He argues that philosophical perspectives can influence how we approach complex systems, and does this in the context of post-modernism[2]. These characteristics are summarized:

A complex system:

a) is composed of many elements
b) has elements that interact dynamically and change over time
c) has elements that influence, and are influenced by, others
d) has non-linear interactions
e) has interactions that are short-range, but has long-range influences
f) has positive (amplifying) and negative (reducing) feedback loops
g) is usually interactive with the environment (open, as opposed to closed)
h) operates in a state that is far from equilibrium (which, in the extreme, is death)
i) has a past which is partly accountable for present behaviour
j) has elements that are largely unaware of the functioning of the rest of the system, responding only to locally available information.

During the last decade, Senge (1990) popularized systems thinking in the context of organizations and organizational learning. Capra (1996) also highlighted the need to shift our thinking from reductionist and analytic thinking to systems and contextual thinking. Systems explanation occurs in terms of relationships or, more accurately, webs of relationships with the system's environment. Reality, then, is constituted through a network of relationships. He suggests that there are no foundations in such a network; rather, different levels of systems exist with none more fundamental than others.

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[2] Cilliers does not attempt to provide a definition of post-modernism because it has accumulated so many meanings. However, he does refer to the position advanced by Lyotard who highlights multiple heterogeneous discourses based on local narratives as opposed to the unification of knowledge through grand narratives. These properties of localness and multiple discourses are important attributes in the context of the other fields of study explored in this and later chapters.

## Relevance of CAS to Health Services Planning

Having outlined the main characteristics of CAS, I now turn to the relevance of CAS as a useful lens to re-conceptualize an approach to planning. There is growing realization at the global level, for example, in the World Health Organization, that a systems perspective is necessary in order to overcome fragmentation, competition, specialization, sectorality, and isolation (Pang, Sadana, Hanney, Bhutta, Hyder, & Simon, 2003). Taking a systems perspective does not necessarily invoke CAS; however, it is a useful way to make sense of the complex issues associated with the health system. Scholars in a number of other fields of study have already done this. Innes & Booher (1999a, 1999b) promote complexity theory to understand and develop collaboration in the context of social planning and consensus building. In the community development arena, Gilchrist (2000) suggests that new insights into the properties of social systems are provided by complexity theory. This is not a new quest, as exemplified by a 1984 symposium on “The Science and Praxis of Complexity”. Included was a session led by Canadian Senator Michael Kirby who lamented that President Kennedy spoke 22 years earlier of the need for “sophisticated solutions to complex and obstinate problems.” Senator Kirby reflected that “it is essential that a way be found to help the individual citizen understand the complex interactions of the problems the government is trying to solve…For when the basis of a decision cannot be understood by the public, a basic condition for the democratic process has not been met.” He posited the question of what the science of complexity can do to help (Kirby, 1984). Seemingly, little progress has been made in the average person’s appreciation for, and understanding of, complexity whether they are, for example, public, clinical, managerial, or policy stakeholders. This may be a more fundamental issue than typically acknowledged because of how people typically frame problems for which they seek solutions.

Thus, an interesting paradox arises. A great deal of effort is made to understand a system by the endless analysis of its parts (fragments) when a system can only be understood as its irreducible self. Bohm (1980) emphasizes the problem of fragmentary thinking and how this results in the more serious problem of people seeing—in fact, experiencing—the world as separately existing fragments. Fragmentary thinking leads to even more problems when people take actions that seemingly correspond to this way of thinking, and which, in turn, reinforce their fragmentary world-views. The same is true of how we treat information. Capra proposes a shift from reductionist to contextual thinking. Capra (1996, p. 272) suggests that "[w]e are so used to these abstractions [taking a piece of information out of its context] that we tend to believe that meaning resides in the piece of information rather than in the context from which it has been abstracted." Bohm's admonition is that if we take the content of our thought as the de facto description of the world it will lead us to seeing the world in this way; worse, experiencing it as fragments; and, even worse, seeing other people, or even the system, behave in accordance with this perspective. These reificatory processes then convert our abstractions, concepts, models and maps into our *sui generis* reality and world-view. This process is extremely difficult to countermand; thus, the relevance of CAS theory. In order to overcome this process and pervasive tendency to, develop fragmentary world-views, our thinking about, and approach to, planning needs to be reframed through a lens that respects the complex adaptive characteristics of the health system. The recognition of the value of collaborative approaches as a means to reframe the issues is starting to take hold.

## Participatory Research Approach

Participatory research (PR), including concepts of participatory action research (PAR) and action research (AR), is an approach to social research that combines the elements of participation, research, and action (Greenwood & Levin, 1998). This approach is distinguished by differences in degree in, for example, purposes, epistemologies, ideologies, and traditions (Herr & Anderson, 2005). Lewin (1946, p. 34) is generally credited with coining the term “action research” which he describes as “research which will help the practitioner.”

### Community-based participatory research

A variation of PR is community-based participatory research (CBPR), one in a family of related participatory approaches to research (as distinguished from methodologies or methods) (Green, et al., 1995; Minkler & Wallerstein, 2003). CBPR and related approaches have gained widespread prominence and use in health (Israel, Schulz, Parker, Becker, Allen, & Guzman, 2003; Minkler & Wallerstein, 2003; O’Fallon, Tyson, & Dearry, 2000; U.S. Department of Health & Social Services, 2003; Viswanathan, et al., 2004; Wallerstein & Duran, 2003; Waterman, Tillen, Dickson, & de Koning, 2001). This is especially apparent in public health (Israel, Schulz, Parker & Becker, 1998; Minkler & Wallerstein, 2003). Proponents of CBPR in public health recognize the sharing of core principles and values (Minkler & Wallerstein, 2003). These scholars typically situate this approach at the Freirian (emancipatory) end of the participatory action research continuum to convey attention to participation, knowledge, power, and praxis (Wallerstein & Duran, 2003). Even so, it is well-recognized that CBPR does not infer a single approach; rather, an approach should be developed uniquely appropriate to the community and situation under study (Israel, Schulz, Parker, & Becker, 1998; Israel, et al., 2003). For applications in health, for example, when working with disadvantaged communities, compelling reasons for using a CBPR approach include the recognition of local community knowledge, the complexity of interactions, and the gap between research and practice (U.S. Department of Health & Social Services, 2003). Frustration persists with the challenges of applying research findings to community health issues, but CBPR is held out to be an important way to address this problem (Ahmed, Beck, Maurana, & Newton, 2004). A recent systematic review of the literature strongly supports health-related CBPR as a collaborative approach to bridge the gap between knowledge and community practice and its use as a way to rally action in the community (Viswanathan, et al., 2004).

The notion of relating community and citizen participation in health is particularly important to understand. This comes with a number of challenges, but there are also ways to achieve success. The next section introduces the significance of community and the importance of enhancing the role of the public in CBPR processes. Otherwise, the idea of research being based in the concept of community is hollow. Thus, it is important to relate community and participation.

CBPR is particularly well-suited to address the complexity of child and youth health service research and service delivery planning. However, issues of power and control need to be addressed. Identifying, understanding, and dealing with power relations and control is central to democratic participatory processes. These and related issues are discussed in the next section.

## Power and Control

The need to recognize and address power relations and control issues in participatory approaches is well documented (Chambers, 1995, 1997, 1998a, 1998b; Cornwall & Jewkes, 1995; Greenwood & Levin, 1998; Martin, 1996; Nelson & Wright, 1995; Rocheleau & Slocum, 1995). Greenwood & Levin (1998, p. 88) underscore that "[Action Research] is about the transformation of power relationships….[w]ithout an analysis of power relationships, AR is impossible." To reiterate what was introduced in Chapter One, it is critical that participatory approaches be backed-up by institutional commitment, not just rhetoric (Nelson & Wright, 1995).

In the context and conduct of participatory research, it is important to acknowledge and seek to more fully understand the power relations and centrality of the dynamics between the researcher and stakeholders, and between the stakeholders themselves (Chambers, 1997; Frisby, Reid, Millar, & Hoeber, 2005; Gaventa & Cornwall, 2001; Greenwood & Levin, 1998; Kothari, 2001; Nelson & Wright, 1995; Rocheleau & Slocum, 1995; Smith, 1997; Wallerstein & Duran, 2003). This is particularly relevant in the health system with its entrenched professional hierarchical structures (Martin, 1996; Meyer, 2001).

Huxham & Vangan (2005) point out that while there is a dearth of literature on power in the context of collaborative settings, power issues are nonetheless important in the pursuit of collaboration, especially when participants hold divergent aims. They promote three points on a continuum of power to address this: (a) power *over* (the relationship and the power this entity has over others), (b) power *to* (help the relationship and collaborations), and (c) power *for* (transferring power to others through collaborations). The approach to power that I take in this study largely revolves around power *to* and power *for.*

Another practical way to characterize power is that described by Starhawk (1987): (a) power-*over*, (b) power-*from-within*, and (c) power-*with*. Typically, notions of power imply a power-over relationship in which conscious or sub-conscious control of others, particularly of the oppressed, is at work and which can lead to widespread damage to body, mind, spirit, and environment (Smith, 1997). Power-from-within emerges from connecting to others and our environment, strengthening and renewing self and soul, and helping to sustain us (Smith, 1997). Power-with concerns our relationships with other people, equals, whom we value. This kind of power relationship is fragile, shared, fluid, gradual, and responsive to group interconnectedness. It also includes a harmonious relationship with nature (Smith, 1997). The critical point here is that PR seeks to "shift power-over relations to power-with and power-from-within." (Smith, 1997, p. 192). Similarly, Nelson & Wright (1995) emphasize the need to shift power in order to allow participants to be active, rather than merely using this shift as a calmative measure to assuage power differentials among people in their organizational structures. Finally, Chambers (1997) specifically decries power as a hindrance to learning, especially among the powerful who may happen to be wrongheaded due, for example, to their position, influence, professional authority, and financial control.

This section has provided an overview of the importance of dealing with issues of power and control on many levels. These concern people and their relationships with each other. I now shift to a discussion of the importance of health care geography, a physical environment over which we typically have little power, authority, or control. However, we can recognize and interact with geographical complexities. This field of study provides valuable insights as to how this can be accomplished in the context of health and health care.

## The Geography of Health Care

### Access and Utilization

The geography of health care also includes access and utilization of health services. As Meade & Earickson (2000, p. 381) emphasize, however, the most important link is the one between the service user and the provider, and that optimizing resource distribution is possible "only if this relationship is understood." The call to improve access has been common to a litany of recent health system reform initiatives (Ricketts, Savitz, Gesler, & Osborne, 1994). Accessibility to health care services is a complex subject with a wide spectrum of concepts, characteristics, and behaviours yet to be understood (Martin, Wrigley, Barnett, & Roderick, 2002; Meade & Earickson, 2000; Ricketts, et al., 1994). For example, Penchansky & Thomas (1981, as cited in Cromley & McLafferty, 2002) identify five characteristics of access: (a) availability (the supply of services relative to needs); (b) accessibility (geographical barriers including distance, transportation, time, and cost); (c) accommodation (how services are organized to meet needs); (d) affordability (ability to pay for services); and, (e) acceptability (how users feel about health services, including issues of gender, culture, ethnicity, and sexual orientation).

The problem of understanding and resolving issues of access is further compounded by the distinction between *potential* accessibility (the geographical distinction between people and services in terms of distance, cost, time, and effort required to reach services) and, *revealed* accessibility (the actual patterns of utilization premised on individual choices, geographical configurations of services, and effects of referrals and regulations) (Cromley & McLafferty, 2002). In terms of spatial factors, distance (as determined by real, perceived, social, and economic measures) is surprisingly overlooked (Meade & Earickson, 2000). Distance is a known barrier (Ricketts, Savitz, Gesler, & Osborne, 1994) and is the common factor in both access and utilization. In BC, the importance of distance is accentuated by large bodies of water, mountains, severe winter weather conditions, and related environmental factors.

## Special Considerations around Children and Youth

It is well recognized that healthy growth and development, especially in early years, is key to health in later years. Many factors are known to contribute to this, including biological, social, economic, physical, and environmental conditions. It is also increasingly evident that the interdependence of space, place, and health is paramount and largely impossible to displace from health policy-making. This was highlighted at the annual convention (2002) of the Union of B.C. Municipalities (UBCM) which observed that the “crisis in the provincial health-care system has drawn attention away from the vital role communities play in health”, especially the role communities should play in helping to develop healthy lifestyles for children (McInnes, 2002, p. B6). This role necessarily extends beyond common conceptions of health services, such as recreation, education, social services, child welfare, and justice.

Generally, there has been little research to date on the concept of place – a social construct entailing where and how people attach meaning to, and experience, their locales (Cresswell, 2004). Despite the key role of health care geography plays concerning access to services, there is only scattered acknowledgement in the grey literature of how place, as a geographical concept, affects health services planning and delivery. Place and how this important concept relates to health and health services for children and youth are highlighted in the next section.

This literature serves to highlight a growing effort, at least in the geography of health care, to shift attention from spatial considerations in health services research, planning, and delivery to an awareness of place—space with meaning. Despite decades of such awareness-raising efforts, other health services research disciplines have been surprisingly slow to inculcate this in their respective domains. Equally puzzling is the absence of place-awareness by decision and policy-makers in the practice arena.

Place, in the context of geography, knowledge and boundaries, is enjoying recent scholarly attention. For example, a special journal edition (Health & Place, 2004) introduces the idea of the geography of knowledge and devotes several articles to this topic. More particularly, the multiplicity of geographies, various forms of knowledge, and their intersections are raised. As Davies, Day, & Williamson (2004, p. 293) observe, "the geography of knowledge draws attention to how different kinds of knowledge are co-constituted through particular places, embodied practices and technological artifacts." In their view, this raises the concept of "boundary work" (p. 294) in a number of ways, including: the production of knowledge, the concentration of power and authority, and public participation processes. Boundaries, in terms of knowledge, locales, and participation, is a concept that I will return to, and expand upon, comprehensively in the context of the findings in my study as discussed in Chapter Five.

Such a connection with knowledge, and how it is used in the context of health services and policy research, takes us into the domain of knowledge transfer, linkage, exchange, and translation, as it is variously known. How knowledge flows between, informs, and is used by multiple stakeholders in the research and decision-making arenas is explored in the next section. This discussion is helpful in terms of explaining the differences in perspective between researchers and decision-makers and how this affects the use of knowledge, particularly the use of evidence to inform managerial and policy decision-making.

## Knowledge Translation

A large gap persists between researchers (those who develop theoretical and scientific evidence), and decision-makers (those who make clinical, managerial or policy decisions). This has been described in variations of the "two communities" theory which purports that researchers and decision-makers live in separate worlds, differing in terms of relevancy, values, rewards, norms, interests, cultures, and languages (Brazil, MacLeod, & Guest, 2002; Caplan, 1979; Huberman (1991), as cited by Wallerstein, 1999; Lavis, 2003; Lester, 1993; Susman & Evered, 1978; Walshe & Rundall, 2001). Two decades ago, Weiss (1980, p. 381, p. 2) suggested that knowledge was not "utilized" and policy was not "decided"; rather, knowledge "creep[s]" and policy "accretes". This helps to explain why decisions take shape gradually without a straightforward application of research and analysis. Lomas (1997, p. 1) observes "spluttering progress" in the dissemination and uptake of research. Walshe & Rundall (2001) demonstrate that lack of progress and a conspicuous lack of interest by governments, policy-makers, and managers characterize the research-practice gap in terms of overuse, underuse, and misuse of evidence by decision-makers. Even "factoids"—speculations reported so often that they are considered true (whether or not they, in fact, are)—enter policy-making in the absence of empirical information (Cummins & Macintyre, 2002). The concepts of knowledge utilization and management have been circulating for decades, recently being co-opted by health services research and delivery.

Knowledge management, itself, is evolving with the increasing recognition that earlier technological approaches to managing knowledge as a commodity are flawed. Rather, knowledge "resides in people: not in machines or documents" (Hildreth & Kimble, 2002, p. 1). This is an important distinction. Extending this reasoning to the discourse on knowledge transfer in the health arena, this distinction is not yet appreciated. It is usually the technical evidence (data and information) that is the focus of transfer, exchange, and translation, not the resultant change in stakeholder knowledge.

Knowledge transfer and exchange (KTE) and knowledge transfer, or translation, both known as KT, are terms that, unfortunately, continue to be used interchangeably in current discourse despite connotative differences. KT is defined in several ways. From a relatively narrow and unidirectional perspective, knowledge transfer is "the *process* [emphasis added] that transfers research results from knowledge producers to knowledge users" (Birdsell, Atkinson-Grosjean, & Landry, 2002, p. 1). CHSRF earlier framed the discourse in terms of evidence-based decision-making (EBDM), highlighting the need for a "linkage and exchange" philosophy between researchers and decision-makers (CHSRF, 1999, 2000). Since 2002, CIHR has promoted a broad definition of knowledge translation that encompasses their entire spectrum of health research (CIHR, 2002):

> [Knowledge translation] is 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. (p. 1)

CIHR is investing heavily in KT and has developed a strategic direction in this key area (CIHR, 2006). This funding body recognizes that partnerships are critical to effective KT, and that ongoing relationships based on trust between knowledge creators and knowledge users strongly predict success in EBDM. These partners include: researchers, policy makers, administrators, health care providers (formal and informal), the general public and patient groups (including media, voluntary sector, educators, non-governmental organizations), and the private sector.

It is useful to approach KT from the perspective of evidence and EBDM. In the context of health services and policy decision-making, CHSRF, in particular, is re-defining what constitutes evidence and, by extension, KT. Significantly, CHSRF has moved away from EBDM to evidence-informed decision-making (EIDM). This shift recognizes the place of scientific evidence, but also honours other contributions to the decision-making process including, for example, values, stories, anecdotes, and life-experiences. Administrative and policy decision-making, in the face of high uncertainty (situations lacking sufficient information to inform decision-making) is weighted toward a reliance on values rather than information (CHSRF, 2000). More recently, CHSRF engaged in a systematic review of the scholarly and grey literature (Lomas, Culyer, McCutcheon, McAuley, & Law, 2005). Their review explores how those who create and use evidence handle it. They conclude that there are three complementary categories of evidence: (a) context-free scientific evidence (used in medicine), (b) context-sensitive scientific evidence (used in social sciences), and (c) colloquial evidence (stakeholder realities). Thus, how one defines evidence, they purport, depends on context, whether it is context-free or context-sensitive. This underscores the very real challenge of appropriately weighting scientific and colloquial evidence to enable decision-making.

In keeping with the earlier focus on the concept of place, Anderson, Cosby, Swan, Moore, & Broekhoven (1999) draw attention to the neglected area of research transfer to local organizations that deliver services to the community. To solve this, they suggest: (a) improved congruence with need and relevance for stakeholders; (b) improved interaction between researchers and users; (c) greater awareness and communication; (d) creation of organizational cultures to inculcate research into decision-making; and, (e) the need for academe to review how researchers work with local agencies. It is also important to humanize the research process, involve all stakeholder groups, and create meaning for and connect with the emotions and experience of practitioners (Canadian Research Transfer Network & Health Research Transfer Network of Alberta, 2002).

The KT process must also overcome barriers to decision-makers' use of evidence, such as those identified by the National Forum on Health (1997): (a) lacking pertinent evidence; (b) lacking consensus; (c) using evidence inappropriately; (d) dealing with lag times between research and its application; (e) being overwhelmed by information; (f) failing to consider the impact on health outcomes; (g) having differing and changing values; (h) lacking accountability for decisions; (i) relying on tradition and judgment; (j) pointing to protection of privacy and confidentiality; and, (k) having to use poorly coordinated health information systems. An equally important consideration is the context of the evidence, ranging from the particular (personal) to the general (population). This reinforces a central role of praxis: the constant iterations between theory and practice, and between knowing and acting. Unfortunately, the research and decision-making solitudes continue to exist more independent of, rather than interdependent on, each other. Success here is contingent upon the extent to which praxis is seen to provide “coherence across intersecting social worlds” (Star & Griesemer, 1989, p. 393). There are many stubborn barriers to making real progress between these social worlds; however, increased awareness of, and an awakening to, the role of praxis in this context will go a long way to building resilient relationships. As Evans (2006, p. 20) succinctly frames it, getting KT to work unimpeded will necessitate that we explicitly face our “unexamined habits of thought and behaviour.” This is the relevance of KT.

# CHAPTER THREE: Methodology and Data Analysis

## Rationale for using a Participatory Research Approach

As reviewed in Chapter Two, participatory research is an effective and respectful way to conduct extensive collaboration with multiple stakeholders in health services and to effect action. While taking a predominantly local community-based approach, this study recognizes a health systems perspective. To focus exclusively on planning at the local community level would detract from the critical interrelationships and interdependencies characteristic of a complex system. The reverse is also true. As Green & Mercer (2001) and Green, et al. (1995) urge, participatory research is a broad and systematic approach that stretches from community to academia and involves stakeholders affected by, or who may potentially use, the research.

I have taken account of the historical neglect of local involvement in health services research and throughout this study have consistently engaged local stakeholders in the research process. Effecting community-based, capacity-building strategies and programs must involve individuals and communities in a meaningful way (Veazie et al, 2001; Moyer, Coristine, MacLean, & Meyer, 1999).

Linkages between research, practice, and policy are critical to the planning and delivery of health services, and ultimately to the success of the health system. Through a participatory research approach, the necessary linkages can be formed and nurtured to better understand the questions relevant to local communities, to undertake the research to appropriately answer such questions, and to facilitate action through planned change processes. The concept of health reform—change—should include local participation and action. This is where the day-to-day realities of health service delivery are actually confronted. Conversely, there is a risk of government using such participation as a convenient means to other ends, for example, to post hoc legitimize public policy, diffuse public criticism, or delay action (Zakus & Lysack, 1998).

## Ethics Approval Process

The ethics approval process entailed a number of stages. The initial three approval processes spanned nearly six months. The University of British Columbia Behavioural Research Ethics Board (BREB) approved the qualitative component of the study contingent upon approvals from the CFRI Research Review Committee, the NHA Research Review Committee, and the Nisga'a Health Authority[3] (had they decided to participate). Additionally, BREB required a separate ethics approval process for the quantitative component, which used secondary administrative child health utilization data for geographic information systems mapping. This, in turn required additional ethics review by CFRI's Research Review Committee and the NHA's Research Review Committee. Investigator-initiated amendments and routine annual ethics reviews added to the process, resulting in some two-dozen certificates and/or letters of approval during the course of the study.

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[3] The Nisga'a Health Authority Board decided to not participate given competing priorities of the day. Had they agreed to proceed, I would have been invited to help develop a prototype Aboriginal community ethics approval process.

The foregoing issues raise the possibility of real and/or perceived harm to the study participants being unintentionally generated through the research process. I exercised great caution to reduce the risk of negative consequences or unintentional harm to the participants and communities engaged in this study. Many of the communities engaged in this study are small and a researcher is conspicuous. Confidentiality and protection of privacy are practical concerns, particularly when participants are, for example, sole clinicians, sole managers, or parents of children whose substantive injury or illness is likely common knowledge in a small community. I was also sensitive to the possibility of raising false expectations around improving health services for children and youth. Continuous involvement of participants in the three qualitative data-gathering methods over an extended period helped me to determine whether there were any potential negative consequences arising from my research, none having come to my attention.

## Gaining Access to the Research Site

I conducted the study in the North West HSDA, one of three HSDAs in the NHA. As discussed in Chapter Two, the NHA has the largest area of five HAs, representing nearly two-thirds of the total land area of the province. Its total population in 2005 (BC Ministry of Labour and Citizens' Services, 2006) was approximately 307,000 of whom 29%, or 89,030 are children and youth 19 years of age and under.

Approximately 13% of the residents are Aboriginal (NHA, 2003b). There are 16 Traditional First Nations Tribal Groups residing in the NHA; however, it is important to recognize that the health authority administration borders do not consistently align with traditional lands (NHA, 2003a). The North West HSDA is a very large rural and remote geographic area representing approximately 27% of the provincial land mass, yet was home to only 84,392 people[4] in 2005 (BC Ministry of Labour and Citizens' Services, 2006). Of these, 25,072 or 29.7% are children and youth 19 years of age and under. The North West HSDA has 25 bands[5] and the highest proportion of Aboriginal residents in the province at approximately 22% (NHA, 2003). A number of events ultimately led to the selection of this research site.

## Mixed Methods Design

I used a mixed methods design for this study. This is defined as one "that focuses on collecting and analyzing both quantitative and qualitative data in a single study (Creswell, 2003, p. 210). Mixed methods research is relatively new. Thus, a number of unresolved issues are still under debate, including: (a) use of nomenclature, (b) utility (c) paradigmatic foundations, (d) design issues, (e) drawing inferences, and (f) logistics in the conduct of such research (Teddlie & Tashakkori, 2003). The use of mixed methods in health research is increasingly supported in the literature (Morgan, 1998).

The next section addresses the two methods used in this study—a priority qualitative component with a nested quantitative component. While this study is a mixed

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[4] This is comparable to the 84,529 residents in 2001 (see Centre for Health Services and Policy Research http://www.chspr.ubc.ca/files/publications/2004/chspr04-12/Healthauthoritydemographics.pdf ). However, the North West has experienced a net outflow of population, presumably due to the challenges of a predominantly resource-based economy. In 1995, for example, the NW HSDA population was 88,294 (BC Ministry of Labour and Citizens' Services, 2006).

[5] A band is "the basic unit of organization of First Nations for political and administrative purposes" (NHA, 2003, p. 15).

methods design, I must emphasize that the quantitative component in this case is a very small aspect of this study. I use quantitative data to demonstrate some of the shortfalls in using the BCMOHS health services administrative database; that it can be mapped to enable the visualization of complex data; that it can be used to demonstrate activity at a local (LHA) level in ways that many stakeholders are not accustomed to seeing such data; and, that it assists in dialogue around the priority health services issues facing certain jurisdictions, for example, serious historical inadequacies in child and youth mental health services throughout the North West HSDA.

## Priority Qualitative Component

The characterization of qualitative data as a priority is described as a choice, depending on the weight given to the method, the researcher's interests, the audience, and the emphasis of the study (Creswell, 2003). I determined that the qualitative component is the priority component in this study, given my personal propensity to a multiple stakeholder participatory approach, the receptivity to this approach during the phase of gaining access to the research site and based on my prior experience in the North West, and because I was using a PR approach. This choice is corroborated by Lincoln & Denzin (2000, p. 1049): "Qualitative inquiry is properly conceptualized as a civic, participatory, collaborative project. This joins the researcher and the researched in an ongoing moral dialogue".

### **Nested Quantitative Component**

The nested component in this study is quantitative (Creswell, 2003; Tashakkori & Teddlie, 1998). In this study, geographic information systems (GIS) software is used specifically as a tool. GIS is an enabling-technology tool, a computer-based system, which integrates, analyzes and maps spatially referenced or geographical data and carries out management and decision-support tasks (Cromley & McLafferty, 2002; Heywood, Cornelius & Carver, 1998; Lang, 2000; Richards, Croner, Rushton, Brown, & Fowler, 1999). This technology substantially improves health planning, particularly at the community level, by better organizing and linking data in planning health services, and by helping community stakeholders visualize and understand complex health issues (Lang, 2000; Richards, et al, 1999). Through the shared use of GIS, the local citizenry can make its case, influence health policy, and assist policy-makers (Cromely & McLafferty, 2002). The forum during which this active participation and sharing took place was during the two-day search conference, which included all stakeholders, including the local public, clinicians, managers, and policy-makers. The search conference method is explained in another section later in this chapter.

## Sampling Process

This study uses a combination of strategic, purposive, and snowball sampling processes. The aim of strategic sampling, as opposed to representational sampling, is to create a relevant range of contexts, experiences, and processes (Mason, 2002). As

Maxwell (1996) reinforces, sampling is a deliberative strategy to select people, settings, events, and processes to generate information that is difficult to elicit from other sources.

In keeping with the intent of theoretical sampling in grounded theory, the use of two additional qualitative methods—focus groups and a search conference—provide further opportunities for qualitative methods triangulation, an iterative process, and data saturation. The aims of theoretical sampling are to fill gaps in data, categories, and emerging theory, and to refine ideas. This does not necessarily imply the need to increase the original sample size; rather, the same subjects can be involved (Charmaz, 2000). The focus groups and search conference involved the same study participants who participated in the individual semi-structured interview process.

Despite lengthy communications and recognition of the value in participating, the Nisga'a Health Authority ultimately did not join the study. According to a senior manager, this was due to unexpected new timelines faced by the Board pursuant to its elections being moved forward.

Study participants were selected from four stakeholder groups: general public/service recipients; clinical service providers; managerial decision-makers; and, policy decision-makers. Appendix A is the introductory Letter of Initial Contact. Appendix B outlines criteria used to help identify participants in the public/service recipients group. Appendix C is the Consent Form used in the study. Also included were clinical service providers, and/or managerial decision-makers, and/or policy decision-makers in the NHA, Children's & Women's Health Centre of BC (C&W, an agency of the PHSA), BCMCFD, BCMOHS and, later in the study, the BC Provincial Government

Social Policy Integration Team.[6] A further sampling delimitation relates to the limited number of participants from other sectors such as education and justice. However, this deficit was partially offset by participation from the Government Social Policy Integration Team, and because at least three study participants had direct linkages with the education sector, for example, as a local school board chair, a local school board member, and as an employee of a school board. Finally, the sample size was delimited by the number of children and youth participants. I had originally planned to recruit at least two youths, one First Nations from the Nisga'a LHA and one Caucasian from a different LHA. However, with the ultimate non-participation by the Nisga'a[7] and the already relatively large sample size, I did not pursue a replacement and decided to proceed with one youth with special needs.[8]

The inclusion criteria were straightforward. People who had used or were currently using, and/or were working or volunteering in, the health system including health services for children and youth living in the North West HSDA, were eligible. Using guidelines from BREB, I ensured that no one was consciously excluded because of culture, language, religion, race, disability, sexual orientation, ethnicity, gender, or age.

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[6] The role of this team included working with approximately eight provincial Ministries, and a specific cross-ministry project involving an integrated approach to services for children with special needs.

[7] Participation by the Nisga'a was actively sought, without success, until December, 2005.

[8] This youth proved to be very popular and contributed significantly to the study. In fact, one of the adult participants was so inspired that she requested a picture of him to remind her of *why* she was doing her work.

## Data Gathering

I gathered data in a variety of settings, depending on subject preference and logistics. I physically visited at least once, but in several cases multiple times, all of the LHAs comprising the North West HSDA, with the sole exception of the Nisga'a Health Authority as discussed earlier. Additionally, this involved collaboration with stakeholders in other organizations, agencies, authorities, and various provincial Ministries who were engaged in some capacity with the planning, co-ordination, and/or provision of health services in the North West HSDA. Over the course of several field-visits by motor vehicle during the course of the study, I amassed countless hours and over 13,000 kilometers of travel. Occasionally, I travelled by ferry and air (including a float plane from a remote coastal Aboriginal community).

### Qualitative Component

Qualitative data relevant to child and youth health services were collected, integrated, and analyzed through an iterative sequence of methods in keeping with a participatory research approach. This sequence of multiple qualitative methods included semi-structured interviews, focus groups, and a search conference.

### Piloting the Semi-structured Interview Question Guide

The interview questions were piloted with the recruitment of four colleague acquaintances, representing each of the four stakeholder groups in the study. This included a parent, a managerial decision-maker, a clinical decision-maker, and a policy decision-maker. This feedback generated from this exercise helped me to clarify, refine, and improve the questions prior to use in the field.

## Semi-structured Interviews

Semi-structured interviews, typically between 60 and 90 minutes duration, were conducted with subjects in each stakeholder group. Forty-three subjects were interviewed over a period of sixteen months, with the majority conducted between December, 2003 and July, 2004. Table 1 on the following two pages outlines the stakeholder groups, place, and date of the interviews conducted during the course of the study. Prompts were used extensively to increase the breadth and depth of responses (Legard, Keegan & Ward, 2003). Appendix D lists the questions and examples of prompts used to guide the interview sessions.

## Focus Groups

The popularity, use, and acceptance of focus groups has increased widely in social research (Finch & Lewis, 2003; Morgan, D., 2001; Robson, 2002), including health services research (Kitzinger, 1999). Focus groups are a type of group interview in which the emphasis is on the generation of data, guided by the researcher, through interactive communication among, ideally, four to eight participants who act as co-researchers (Kitzinger, 1999). It is a common method of data generation in action research studies where active participation is sought (Kitzinger, 1999). It can be used as the primary method of data gathering, or in conjunction with other methods (Robson, 2002). Depending on the nature and focus of the study, focus groups can be heterogeneous (differing in background, position, or experience) or homogeneous (similar in background, position, or experience) (Robson, 2002). There are pros and cons to each approach; however, the general practice is to attain reasonable diversity (Finch & Lewis, 2003).

All study interviewees, up to the point of scheduling the focus groups, were invited to participate in a community closest to them. In several cases, this precluded participation due to a significant burden of travel by vehicle, ferry, or airplane for a two-hour meeting. Participants were advised by email that this was a semi-structured group interaction during which participants were co-researchers who would comment, reflect, and add to each others' thoughts and perspectives that might arise in the meeting. They were advised that they would be conversing mainly with each other rather than to me as researcher. I indicated that my role was to facilitate and guide the meeting, and to address some or all of the questions which were asked in the earlier interviews. Thus, the content area was reasonably familiar to each participant. I also provided a brief overview of my early analysis of the data thus far so that emerging themes could be explored collectively.

I held three focus groups during one week in September, 2004, in Prince Rupert, Terrace, and Smithers. These were followed by one focus group held in Victoria in November, 2004. There were five to eight participants in each group (heterogeneous) and the meetings lasted about two hours. Appendix E lists the questions and examples of prompts used to guide the sesssions. The goal was to include at least one participant from each of the four stakeholder groups (public, managerial, clinical, and policy) and generally cover the geographical context. In practical terms this meant holding three focus groups, one in each of the three North West administrative clusters—west (Prince Rupert), central (Terrace), and east (Smithers). The fourth focus group included participants in the Lower Mainland and Vancouver Island areas who were involved with child and youth health services in the North West, including participants from BCMOHS and Health Canada FNIHB. Prince George, as home to the NHA corporate office and several study participants, was considered as a fifth site; however, stakeholder heterogeneity was not possible. Several logistical challenges were encountered such as scheduling the focus groups to optimize travel time, distance, weather conditions, and expenses for all participants, including myself, and the need to achieve reasonable stakeholder heterogeneity in each focus group.

## Search Conference

A search conference is a collective learning process that permits considerable variability in length, facilitation, participation, configuration, and rules. Emery & Purser (1996, p. 4) describe it as "a participative event that enables a large group to collectively create a plan that its members themselves will implement….It is an excellent means of planning large-scale systems change in real time, and it generates excitement, energy, and purposeful behavior". Most importantly, they state that "people learn how to move forward together as a unified community, and…to accept joint responsibility for their common purpose". A proprietary variation, "future search" (Weisbord & Janoff, 2000), builds on the notion of finding common ground in organizations and communities, which leads to taking personal responsibility, making expedient action plans, and forming durable relationships across key boundaries. Greenwood & Levin (1998) describe a framework which integrates five key processes: (a) sharing stakeholders' histories, (b) developing a shared vision, (c) engaging participants in the creation of action plans, (d) collectively prioritizing alternative action plans, and (e) creating volunteer action teams who commit to addressing the issues.

The Greenwood & Levin (1998) framework was used as a guide in this study. Additionally, a consultant in public sector strategic planning and governance, with whom I worked in another capacity, offered practical advice around structuring the search conference based on his extensive experience. Through a combination of plenary and small group dialogues, the goals of this planning conference were to:

- refine and expand upon the findings emerging from the previously conducted semi-structured interviews and focus groups
- co-create a shared history and the current reality of child and youth health services in the North West
- co-create an ideal future for child and youth health services in the North West and prioritize realistically attainable goals
- co-create action ideas and strategies to realistically attain prioritized goals
- co-create action teams to follow-up on, and be responsible for, prioritized ideas, strategies, and goals.

All of the participants in the study up to the timeframe of the search conference in April, 2005 were invited to participate. At this point, of the 43 participants, two managers had taken positions elsewhere and moved away, and one policy-maker had retired. Seventeen people participated in the two-day search conference.

During the opening plenary session, I acknowledged, on behalf of the participants, the traditional territory (Tsimshian) on which the search conference took place. I also arranged for a Aboriginal Elder from the local Kitselas Band in Terrace to participate, through a prayer, in both the opening and closing plenary sessions.

In day one, participants explored shared history (to learn and build upon each other's interpretation of history and co-generate history), followed by sessions on the ideal and probable futures (creating a shared vision and goals). This process also helped to define the key objectives emanating from broad goals. In day two, participants examined action strategies that support the goals and objectives. They also grouped and prioritized the action issues (including objectives). The final stage created action teams to address the agreed-upon actions. Although not typical in a search conference, I actively participated on two occasions.

## Quantitative Component

### BC Ministry of Health Services PURRFECT Database

The quantitative component (nested within the qualitative component) is for the purpose of demonstrating health services utilization for children and youth residing in the North West HSDA. It incorporates generalized secondary administrative data available from the BCMOHS Population Utilization Rates and Referrals For Easy Comparative Tables (PURRFECT)[9], Version 10.1 (BCMOHS, 2004). These data were mapped using GIS software ESRI Arcview Version 8.3, for the purpose of making complex data

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[9] Originally, I planned to use the UBC Centre for Health Services and Policy Research linked administrative database. However, because the intent of the mapping of child and youth health services utilization data was to demonstrate efficacy as a tool only, it became apparent that the process to link the required data, including the approval processes, was going to prove too lengthy and complex for the intended purposes and timing of the study.

visually accessible to multiple (including lay) stakeholders during the search conference and to help explain what the quantitative data were demonstrating.

A further delimitation exists in my use of the PURRFECT database, the use of selected utilization data, and the use of selected ways to map the data. In other words, while the qualitative data provided suggestions as to where to focus (for example, teenage pregnancy rates and mental health in particular), I did not systematically review the qualitative data and list all of the possible quantitative data to be sought out. If the purpose of this study had been to specifically identify and quantify health service needs, this would have been necessary; however, the focus of the study was to explore the process to determine needs from multiple stakeholder perspectives. Moreover, the quantitative component at the outset was intended to be a minor component with the express purpose to demonstrate the utility of mapping and visually representing selected utilization data suggested by, and relevant to, local contexts in the North West. This was adequately served with the maps presented during the search conference method.

## Data Analysis

### Qualitative Component

Qualitative research is inductive, with insights and concepts arising from the data. This is in contrast with deductive research, in which preconceived hypotheses and theories are tested by the data (Creswell, 2003; Taylor & Bogdan, 1998). There are a number of characteristics of qualitative research that specifically relate to data analysis (Snape & Spencer, 2003): (a) data collection process is interactive and developmental;

(b) data is detailed, information rich, and extensive; and, (c) data analysis is open to emergent concepts and ideas. Analysis of qualitative data, in its broadest sense, is a recursive exercise involving sense-making, interpretation, and theorizing (Schwandt, 2001).

Qualitative research does not subscribe to a single methodology, nor does it infer a particular method, practice, theory, or paradigm (Denzin & Lincoln, 2000). There is no single way to conduct qualitative research (Snape & Spencer, 2003), nor is there a single way to perform qualitative data analysis (Schwandt, 2001). The following two sections will first address a general grounded theory approach and then, specific to this study, introduce a constructivist grounded theory approach which was used as the basis for data gathering and analyses in this study.

## Grounded Theory Approach

The term *approach* is significant in the context of grounded theory for a number of reasons. Grounded theory is but one option amongst many (Annells, 1996). However, "[t]he grounded theory approach is the most influential paradigm for qualitative research in the social sciences today" (Denzin, 1997, cited in Patton, 2002 , p. 124). Glaser & Strauss (1967, pp. 8-9), in their original text on grounded theory, intended to "stimulate other theorists to codify and publish their *own* [emphasis in original] methods for generating theory….keep[ing] the discussion open-minded, to stimulate rather than freeze thinking about the topic." Unfortunately, this stimulation has lead to dissension and divisiveness in the field, with two methodological schools arising, Straussian and

Glaserian, bearing the names of their founders. This debate, often acerbic and confrontational, has been reviewed extensively in the literature over a number of years and will not be repeated here.

## Constructivist Grounded Theory Method

Constructivist grounded theory is advanced by Charmaz (2000) to argue in favour of the need to study people in their natural settings and to redirect qualitative research. In so doing, she downplays rigid or prescriptive grounded theory strategies, argues for a focus on meaning through interpretive understanding, and supports using grounded theory without a proclivity to its earlier positivist roots. This shift in focus is supported and detailed by Clarke (2005). Glaser (2002a) has acknowledged a growing and scholarly constructivist orientation to grounded theory. However, in a rejoinder, he characterizes this variation as being misplaced, downplays its significance, and challenges its relevance. On the other hand, this retort runs counter to his earlier welcoming of variation and new possibilities. Bryant (2003) counters Glaser's repudiation of constructivist grounded theory with a charge of proprietorship, observing that grounded theory now enjoys additional views beyond that espoused by Glaser. Despite these and related debates on the evolution of grounded theory, I chose to use a constructivist grounded theory method for the qualitative data gathering and analyses processes in my study.

## Qualitative Authenticity Criteria

The term "authenticity criteria" reflects the "hallmarks of authentic, trustworthy, rigorous, or 'valid' constructivist or phenomenological inquiry" (Lincoln & Guba, 2000,

p. 180). Given the approach I used, these criteria realistically reflect the characteristics of this study. These criteria include: (a) fairness, (b) ontological authenticity, (c) educative authenticity, (d) catalytic authenticity, and (e) tactical authenticity. Fairness refers to the extent to which the subjects' concerns, issues, and values are solicited and represented in a balanced, even-handed way by the researcher. Ontological authenticity is concerned with the extent to which the subjects' own constructions are enhanced, informed and made more sophisticated through participation in the study. Educative authenticity is about the extent to which subjects develop a greater understanding and appreciation of the constructions of others. Catalytic authenticity refers to the extent to which action is stimulated and facilitated by the research process. Tactical authenticity is concerned with the extent to which subjects are empowered to act. Appendix G exemplifies how this research led to further efforts at the local level.

## Auditability

Finally, I would like to raise the issue of auditability as yet another criterion of trustworthiness and authenticity. Lincoln & Guba (1985, pp. 318-319) promote the audit trail as an important way to ensure confirmability of research findings. White, Woodfield, & Ritchie (2003, p. 320) describe the audit trail as "the extent to which others can follow the research process that took place and any concerns or observed limitations about its conduct." This includes: (a) ability to follow the research design; (b) how fieldwork is conducted; (c) sample design, selection, composition, and limitations; (d) methods used in data analysis; and, (e) the researcher's epistemological approach (White, Woodfield, & Ritchie, 2003). Throughout the course of this study, I have maintained meticulous written records for each stage of the research process, which provides an opportunity for anyone to closely follow, and duplicate if necessary, each step of the study.

## Quantitative Component

### Using the PURRFECT Database and GIS to Map Child and Youth Health Service Utilization in the North West HSDA

I used GIS software, ESRI Arcview Version 8.3 to create approximately 12 maps in preparation for the search conference, at which I presented and discussed them. These maps specifically highlight two major issues (among others) facing the North West HSDA and repeatedly raised during the qualitative phase of the study. These issues were teenage pregnancy rates and child and youth mental health, both of which remain unaddressed in a systematic way in the North West. The maps typically used data from the most recent year available (2003/04) for information such as: population 0-19 years by LHA in the North West; mental health total cases 0-19 years treated by LHA over a three-year period; mental health inpatient cases 0-19 years treated in each LHA; an estimate of mental health cases 0-19 years *not* served by the formal health system; pregnancy cases 0-19 years referred to a tertiary hospital by LHA; and, pregnancy cases 0-19 years handled by LHA of residence. I also included examples from the 2nd Edition of the BC Health Atlas[10] to demonstrate the greater sophistication and utility that can be gained with additional resources. This exercise was not intended to be comprehensive; rather, these examples served to demonstrate the utility of GIS in making visual complex

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[10] Available at http://www.health-atlas.chspr.ubc.ca

health services utilization data, especially with lay audiences. Their intended visual simplicity belied the time and energy that went into their production. This included, for example, the separate ethics approval process for this quantitative component, awaiting and securing the latest version of PURRFECT v.10, learning about the database, outputting the data using an Excel spreadsheet, and learning the GIS software to produce these fairly basic maps. Fortunately, I was able to secure technical assistance from a decision-support staff member at C&W who had working familiarity with the PURRFECT database, and also from a geographer[11] who had considerable GIS mapping experience in health. Nonetheless, I experienced a steep learning curve under extremely tight time constraints given the scheduled search conference timeline and the Ministry's delays in releasing the database.

The use of GIS as a mapping tool assisted me as a researcher and the study participants as co-researchers in getting a more complete picture of child and youth health services utilization in the communities of relevance and interest to the participants. Because the Nisga'a Valley Health Board chose to not participate in the study, the quantitative component excluded their data in the maps, although it was available through the PURRFECT database.

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[11] Sadly, this young man, Peter Schaub, died suddenly in August, 2005 while unloading his belongings during a move to Penn State University to pursue graduate studies in geography. I am deeply indebted to Peter's knowledge, his teaching ability, and his cheerful manner. Like so many of his colleagues, I miss him.

# CHAPTER FOUR: Findings I and II—The Emergent Concepts

From the qualitative data, I created three conceptual categories: perceptivity, emotivity, and inclusivity. These incorporated data regarding: participants' (a) perceptions of the provincial health system, (b) emotions generated by the health system, and (c) inclusion in the health system. Numerous theoretical memos, especially over the mid-stage of data gathering and analysis, helped me to make sense of these early data. I shared my preliminary findings during my introductory comments in the focus group sessions as a way of seeking early authenticity with the study participants, and in order to signal any need for adjustments or refinements as the study progressed. I also shared my findings during several follow-up sessions to discuss the findings. I invited all study participants and, based on availability, held sessions in Prince Rupert, Smithers, Terrace, Prince George, and Victoria to review my findings and seek feedback.

## Perceptivity About the Health System

Issues in this conceptual category are organized under three sub-categories: (a) understanding of the provincial health system, (b) considering issues in health services planning, and (c) acknowledging practical issues.

## Emotivity Generated by the Health System

The second major conceptual category introduces a deep-rooted emphasis on emotions, feelings, and need for control that participants regularly expressed. This category is imbued with pessimism spanning all four stakeholder groups. This undercurrent of emotivity pervaded responses and spanned all stakeholder groups to varying extents. However, this needs to be balanced with many success stories, only a few of which were shared. The parental stakeholder group (especially of children with special or chronic needs) expressed these feelings with the greatest intensity which, in these cases, can be attributed to their chronic frustration in dealing with the system over many years, at many levels, with many disciplines and sectors, often at great distances. This parental group epitomizes the many challenges of dealing with the interface, or boundary, dynamics in what can still be characterized as a poorly functioning health system. Additionally, these issues span jurisdictions other than health services, such as education, recreation, and justice. Some of these dynamics are captured in the following accounts by parents, clinicians, managers, and policy-makers. They collectively reinforce what parents have been asserting, often unheard by people in positions of authority, for a very long time. Many of these sentiments reflect findings elsewhere and can be best understood in terms of skewed power relationships, unequal interests, and disproportionate information (Church, Saunders, Wanke, & Pong, 1995).

As Forester (1999, p. 80) suggests in reference to deliberative[12] participatory planning, "emotions are potentially modes of vision onto the world….We can learn not only about the emotion, then, but about the practical and often malleable world that has engaged it." During my study, many and varied emotions were expressed by participants in the context of the health system, a malleable world in Forester's terms, and these will

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[12] Forester (1999, p. 1) defines deliberative practice as "learning about others as well as about issues, learning about what we should do as well as about what we can do."

now be discussed. I identified five sub-categories of emotional reaction: (a) lacking knowledge, (b) feeling unheard, (c) experiencing frustration, (d) reacting censoriously, and (e) taking charge.

### Inclusivity in the Health System

In an effort to gain an appreciation of the anticipated differing perspectives of community, participants were asked what the term “community” meant to them. Participants made multiple references to this concept in a number of the other questions. The range of conceptions of community is striking. Like systems, this term evokes a broad range of feelings which are typically not sought, acknowledged, respected, or accounted for in a meaningful way in typical planning processes. This lack conjures up perceptions of a large boundary and distinction between North and South, not just in a geographical sense. In the context of attempts to collaborate with Aboriginal communities, such disparities (perceived and real) effectively undermine good intentions. Coding these data gave rise to three sub-categories: (a) perceptions about community, (b) potential for creating a sense of community, and (c) pragmatic issues when addressing community.

## Boundaries and Boundary Objects

In this section, I introduce and develop the concepts of boundaries and boundary objects. The basic tenets of knowledge-exchange and linkage among multiple stakeholders, including researchers and decision-makers[13], form a necessary part of the development of this approach. I use empirical data from this study to develop a theoretical framework for the concept of boundaries (in particular, knowledge boundaries) and boundary objects, and demonstrate how this works in a participatory planning process for child and youth health services in North West BC. It is in this context of knowledge boundaries that CBPR functions as a boundary object to strengthen the local relevance of research, establish continuity with local practice, and influence broader health policy.

An important issue facing researchers engaged in CBPR is how the findings generated through this approach can be applied in the process of health services planning. This issue necessarily focuses on the elusive interfaces between health services research, health services delivery, and health policy. The research – practice boundary interface is historically well-acknowledged by community participants in this study. As Ahmed, Beck, Maurana, & Newton (2004, p. 142) urge, "[c]ommunities and academic institutions must desire and learn how to work together." To achieve this, attention must be focused on the interfaces, or what I shall characterize as *boundaries,* between multiple stakeholders in the health system. This is not just a matter of addressing the cliché "breaking down the barriers". Consistent with KT, a much more sophisticated exploration and analysis is necessary. As Hernes & Paulsen (2003, p. 3) assert, "[w]hat emerges is a need for boundaries to be rediscovered and respecified." Implementing research means discovering the boundaries that really matter in the intersecting worlds of multiple

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[13] Use of the term decision-maker in this study refers to participants in all four stakeholder groups – public, clinicians, managers, and policy-makers.

stakeholders and the boundary objects that provide coherence in the realities of people who work in, and are served by, the health system.

## Boundaries

Boundaries are conceptualized and categorized in many ways including, for example: physical, social, mental (Hernes, 2003, 2004); physical, temporal, psychological (Diamond, Allcorn, & Stein, 2004); efficiency, power, competence, and identity (Santos & Eisenhardt, 2005); physical, psychological, and social (Bruhn, Levine, & Levine, 1993); closed, compact, porous, and open (Bruhn, Levine, & Levine, 1993); metaphors of containment, membranes, sociocultural construction, and of diminished relevance (Marshall, 2003); objective and symbolic (Heracleous, 2004). From an ecological perspective, boundaries can be classified by virtue of origin and maintenance, structure, function, and dynamics (Strayer, Power, Fagan, Pickett, & Belnap, 2003). As dyadic metapatterns, boundaries can be broadly classified as walls (separators) and bridges (connectors) (Volk, 1995).

Contrary to what management and organizational literature popularized in the 1990s (e.g., Gilmore, Hirschhorn, & O'Connor, 1994; Hirschhorn & Gilmore, 1992), the suggestion that boundaries in organizations are disappearing is seemingly a myth. This suggests a contrast to other jurisdictions in the global arena, such as international trade agreements, communications, and information technology that are working towards eliminating traditional boundaries. As Hernes & Paulsen (2003) suggest:

> Just because boundaries may be less visible in the modern organization, does not make them less important. In fact, it makes them even more important as topics of investigation….What we are witnessing is not an effacement of boundaries, but a proliferation. (p. 4)

Despite decades of interest in boundary phenomena in various disciplines, the study of boundaries in organizations and management has received surprisingly little attention to date (Heracleous, 2004; Hernes & Paulsen, 2003). Even then, the study of boundaries has typically been driven more by "armchair theorizing" than reality (Heracleous, 2004, p. 97; Hernes & Paulsen, 2003). As Hernes & Paulsen (2003) purport, the task is essentially:

> discovering boundaries that matter in relation to the phenomena that we select, and then adopting the perspective that stands the best chance of informing us about the phenomena in question….[I]f we look closely enough, we can see and read boundaries in places where they traditionally have not been assumed to exist. And by consequence they show how we can take steps to unravel some of the mysteries of contemporary organization. (pp. 10-11)

While "boundaries are elusive phenomena", they are places where "individuals may be considered to be almost perpetually in 'liminal' situations, where they both move between boundaries and carry the boundaries with them" (Hernes & Paulsen, 2003, p. 6). Boundaries are personal, as suggested by Epstein (1989, p. 576): "people become invested in boundaries because their sense of self, their security and their dignity, all are tied to particular boundary distinctions, and these personal investments are bound up with authority and hierarchy." Boundaries, like the concept of place, are deeply significant and imbued with personal meaning. As individuals' boundaries intersect with the boundaries of others, their individual investment is subject to disruption, depending on the extent to which the personal investments of others align, or don't, with their own. This is particularly significant in terms of authority and hierarchy. If one has power, control, and authority the boundary issue may not be so significant to that stakeholder. If one doesn't, however, this is a really significant boundary issue, around which many personal investments may become revealed and put at risk. Achieving meaning and coherence across intersecting social worlds is a formidable task, far greater than simply having common knowledge or interests. One way to accomplish this is through boundary objects.

## Boundary Objects

The concept of boundary objects is even less well understood than boundaries and needs rediscovery and respecification. Boundary objects were first introduced by Star (1989) in the context of how to successfully attend to distributed and heterogeneous problems. This arose from two case studies: (a) the interactions of a community of 19th century neurophysiologists in England (including researchers, hospital administrators, attendants, animals, journalists, and patients); and (b) the interactions of those involved in the development of a zoological museum (1900 – 1940) at Berkeley, California (including biologists, collectors, university administrators, animals, trappers, farmers, and conservationists). Star & Greisemer (1989) define boundary objects as:

> those scientific objects which both inhabit several intersecting social

> worlds…*and* [emphasis in original] satisfy the informational requirements of each of them….They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. (p. 393)

The concepts of boundaries and boundary objects have been recently expanded and applied in a number of academic fields and disciplines. These are outlined in a later section. There are very few examples in health services, such as Bruhn, Levine, & Levine (1993), Kerosuo (2003), and Rodriguez, Langley, Beland, & Denis (2003).

A precise definition of boundary objects is elusive; they can be variously described as things, concepts, methods, entities, and models. They exhibit a number of dyadic properties, such as abstract and real, specific and general, conventionalized and customized, and flexible and focused (Garrety & Badham, 1999; Henderson, 1991; Star & Griesemer, 1989). Later sections in this chapter address in more detail the concept and properties of boundary objects and will be illuminated with empirical data from this study. In particular, this includes how stakeholder knowledge is addressed both in terms of boundaries and boundary objects.

## Boundaries and Boundary Objects in Other Industries

Expanding upon the earlier work of Star and Greisemer, the concept of boundary objects has been studied, adapted, and applied in a number of diverse and largely overlapping areas including: information technology (Levina & Vaast, 2004); design and engineering (Boland & Tenkasi, 1995; Henderson, 1991); technology development, new product development and manufacturing (Carlile, 2002, 2004a, Carlile & Lucas, 2003;

Garrety & Badham, 1999; Kartsten, Lyytinen, Hurskainen, & Koskelainen, 2001); environmental policy and science (Guston, 2001); and, organizational management (Brown & Duguid, 1998; Wenger, 1998).

Carlile (2002, 2004a, 2004b) and Carlile & Lucas (2003) have taken an empirical approach to the study of boundaries and boundary objects. They have developed and applied an integrative framework for managing knowledge across boundaries largely in the context of settings associated with innovation. This includes new product development in the automobile industry, and technology development and competitive advantage in the aerospace industry. Carlile's Integrated/3-T framework for managing knowledge across boundaries will now be introduced and discussed.

## Carlile's Integrative Framework—A Description

Carlile (2002, 2004a) builds an integrative framework on the premise that there are knowledge boundaries between specialized domains (Brown & Duguid, 2001), and that knowledge use in organizations—for example, new product development—is problematic. Three progressively complex boundaries are described: transfer, translation, and transformation. Organizational actors share and assess each other's common and domain-specific knowledge. Common knowledge, as a boundary object, is used to communicate across domains; however, when novelty exists two important issues arise: "the *capacity* of the common knowledge to represent the differences and dependencies now of consequence and the *ability* of the actors [emphases in original] involved to use it" (Carlile, 2004a, p. 557). This also raises the problem of "path dependency" which describes a more powerful actor's reuse of common knowledge in a way that constrains the ability of others to deal with novelty in the situation. Carlile builds on three levels of increasing complexity in communications: syntactic, semantic, and pragmatic (Shannon & Weaver, 1949, as cited in Carlile, 2004a, p. 557). These levels are important in terms of understanding what transpires at knowledge boundaries, and in understanding the role and characteristics of boundary objects. These knowledge boundaries and boundary objects are summarized below, based on work by Carlile (2002, 2004a). For streamlining purposes, Carlile (2002) adapts the four categories of boundary objects (repositories; standardized forms/methods; objects/models; and, maps of boundaries) developed by Star (1989). He places them into three categories to address similarities between objects/models and maps, as follows: (a) syntactic—repositories, (b) semantic—standardized forms and methods, and (c) pragmatic—objects, models, and maps.

## Syntactic Boundary and Boundary Objects

At the syntactic (information-processing) boundary level, knowledge simply moves (is transferred) between a sender and receiver, relying predominantly on a common lexicon or syntax, such as a computer programming language. Ideally this knowledge is transferred accurately, and this may work reasonably well in environments with stable conditions; however, when novelty (change) arises it does not work well. This may be due to differences in, and dependence upon, multiple actors' knowledge at a boundary. Actors' failures to recognize mismatches caused by this changing context can lead to an underestimation of the efforts needed to address changes in the previously stable conditions. Thus, the effectiveness of this basic level of knowledge transfer at actors' boundaries is limited.

The characteristics of boundary objects appropriate to this boundary level are, fundamentally, shared language or syntax. This is also requisite in any subsequent boundary level activity. Typical boundary objects at this level are repositories, such as libraries and databases, which aid actors in representing knowledge at the boundary interfaces.

## Semantic Boundary and Boundary Objects

The next level is the semantic (interpretive or translation) boundary where increasing novelty causes actors' knowledge differences and knowledge inter-dependencies to become unclear, resulting in interpretive differences and communication problems. Such discrepancies need to be resolved, and this is accomplished through the development of common meaning. Boundary objects at semantic boundaries provide a means for actors to describe their certainties and uncertainties in order to address and learn from the problems they are facing. The concreteness of the boundary objects is predicated upon the nature of the problem, for example, whether it is more processual or structural in nature. Typical boundary objects at this level include standardized forms and methods, such as functional specifications in automobile manufacturing. Thus, such objects are characterized by representing and learning at the boundary interfaces.

### Pragmatic Boundary and Boundary Objects

The third and final level identified in the Carlile framework is the pragmatic (transformation or political) boundary which arises when ever-increasing novelty results in the need for actors to resolve their different and conflicting interests to create common interests. This boundary level recognizes that “knowledge is invested in practice” (Carlile, 2004a, p. 559). Boundary objects important to the pragmatic level help actors to apply their respective knowledge toward transforming old knowledge in use at the boundary. In new product development, typical boundary objects at the pragmatic level include, for example, computer assisted design models, and computational fluid dynamic tools. Typically, these objects are models and maps, characterized by representing, learning, and transforming at the boundary interface.

## Knowledge Boundaries in Health Services Research and Delivery

The investment in boundaries is pronounced when addressing knowledge and how knowledge is managed by stakeholders within and across a number of domains—individuals, families, organizations, communities, and populations. These domains align with those generally recognized in health services research (Lohr & Steinwachs, 2002). I posit that such an investment in boundaries and the process of knowledge exchange (boundary objects) at multiple stakeholder interfaces (knowledge boundaries) are key to complex health services planning and research. However, this area has enjoyed little exploration to date. “The aim of health services research is to produce knowledge that may be applied by policy-makers, practitioners, programme planners and other decision-makers in order to improve the public's health." (Goering, Butterill, Jacobson, & Sturtevant, 2003, p. S2:14). With this aim comes "the *complexities* [emphasis added] of linkage and exchange relationships" (Goering et al., 2003). While knowledge boundaries had little attention historically, these relationship complexities were the subject of knowledge utilization for decades. For example, Caplan (1979, p. 459) originally characterized the "Two-Communities Theory" in the sense that "social scientists and policy makers live in separate worlds with different and often conflicting values, different reward systems, and different languages." Further, Caplan showed that:

> [t]he *connection* [emphasis added] between knowledge producers and users has to be thought out carefully if efforts to improve utilization based on the Two-Communities theory are to succeed. To couple existing knowledge and the production of new knowledge to user needs requires *collaborative arrangements* [emphasis added] which will be congruent with the nature of the utilization problem and the existing system of inquiry used to acquire and process information. (p. 468)

While this metaphor has been central to many studies on knowledge utilization in social science, there has been an historical "lack of a comprehensive theoretical framework addressing multiple levels of reality." (Oh, 1997). More recently, other scholars, such as Lavis, Ross, Hurley, Hohenadel, Stoddart, Woodward, et al., (2002, p. 146) have recognized the issues posed by the "two-communities" characterization. They promote the need for increased interactions between researchers and potential users because such activities are requisite to "the 'real' work of research, not a superfluous add-on." This is supported by a recent systematic review of the literature that "identified such interactions as the only factor that has consistently been shown to influence the uptake of research knowledge by health system managers and public policy-makers" (Innaver, Vist, Trommald, & Oxman, 2002, as cited in Ross, Lavis, Rodriguez, Woodside, & Denis, 2003, p. S2:26).

Similarly, Gibson (2003, p. 29) argues against solitary use of the two-communities construct to change the research-policy relationship. Rather, "[t]he *way* [emphasis added] we think about the problem of the *relationship* [emphasis added] between research and policy has a major impact on the way we think about solutions to the problem."

In addition to the attention to knowledge production, is a call to re-conceptualize what is meant by knowledge itself (Fahey & Prusak, 1998, p. 226). This highlights the need to change the dominant conception of knowledge as a "stock" to knowledge as a "flow". As these authors point out, this distinction is critical to how we think about knowledge. For example, as a stock, it is a thing that can be captured, stored, and transmitted (such as in a library or electronic database). As a flow, it is created by, and inseparable from, individuals and is in constant flux and change (as in a dialogue). Wheatley (1999) places failure of communication in organizations squarely on our tendency to treat information as a stable thing at the expense of the other dimensions such as its dynamic, unpredictable, and changing nature. This is an important distinction and reinforces the historical tendency to emphasize "knowledge as stock…reinforc[ing] organizational tendencies to manage and massage ever more complex and interconnected databases and to construct even more elaborate information structures" (Fahey & Prusak,1998, p. 267). Finally, they make the critical point that knowledge creates a dynamic, shared context: “In the absence of shared context, individuals’ differing perspectives, beliefs, assumptions, and view of the future are most likely to collide and thus immobilize decision making.” (Fahey & Prusak, p. 268).

It is this need for a shared context that is critical to the concept of knowledge boundaries and boundary objects. It is also critical to our understanding of why creating the conditions for enabling differing worldviews to be freely expressed and honoured is so important. Without this shared context, the local perspective is at risk of being left out, contradicted, or negated in the context of the larger and more powerful system and prevailing hegemony.

## Towards a Conceptual Model of Knowledge Boundaries and Boundary Objects

In Chapter Two, I discussed the importance of community based participatory research. Here, I propose linking this research approach to the concepts of boundaries, boundary objects, knowledge, knowledge translation, and localness. The balance of this chapter takes a journey into liminality. It explores the concept of knowledge boundaries and boundary objects in the context of planning child and youth health services in North West BC using a CBPR approach. I discuss the findings which emerged using the constructivist grounded theory method for qualitative data analysis in this study, as amplified in Chapter Three. I then introduce a conceptual model developed in non-health areas—new product development in the automobile and aerospace industries.

## Knowledge Boundaries

The concept of knowledge boundaries is perhaps most developed in the bodies of literature of information sciences and of organizational science and management. Despite the implied urgency and complexity of boundary management in the health care field (Rodriguez, Langley, Beland, & Denis, 2003), the concept is minimally developed in the health services research and health services delivery literature and less so in practice (Bruhn, Levine, & Levine, 1993; Kerosuo, 2003; Rodriguez, Langley, Beland & Denis, 2003). Brown & Duguid (1998, p. 101) refer to the prevalence of the “knowledge-based boundaries” of academe that isolate disciplines and prevent the interchange of knowledge for cross-disciplinary research. Again, Brown & Duguid (1998; 2001, p. 199), while not specifically using the term knowledge boundary, describe the concept in terms of: “sticky” knowledge (keeping and moving knowledge within organizations) and “leaky” knowledge (the undesirable outward flow of knowledge, particularly across organizational boundaries to competitors). By way of a knowledge boundary example introduced in an earlier section of his work, Carlile (2002) characterizes knowledge boundaries as problem-solving and knowledge creation across four primary functions in the automobile industry: sales/marketing, design engineering, manufacturing engineering, and production. Actors in this industry setting have and use their own domain-specific knowledge, but sharing this knowledge across specialized domains (i.e., knowledge boundaries) is often impeded (Carlile, 2002, 2004b).

For the purposes of this study, I suggest that stakeholders in health services also use domain-specific knowledge, which, in the health system, encompasses several domains. I limit these to four stakeholder groups as discussed earlier. Similarly, the sharing of knowledge across domains (specialized and others) is often difficult, even impeded.

## Classifying Knowledge Boundaries in Child and Youth Health Services

During qualitative data analysis, I discovered a number of boundaries in the health system and classified them as intangible and tangible. These are summarized in Table 1.

**Table 1. Boundaries Identified in the Data**

| INTANGIBLE | TANGIBLE |
|---|---|
| Face-value problems – Real problems<br>Real problems – What is done<br>What is right – What is done<br>Caring – Uncaring<br>Lower-levels – Higher-ups<br>Poor – Rich<br>Powerless – Powerful<br>Visible problems – Invisible problems<br>Status quo – Novelty<br>Big picture – Details<br>Periphery – Centre<br>Child priorities – Other priorities<br>Multiple perspectives – Singular (political) perspective<br>Local approach – Central (political) approach<br>Local incapability – Central capability<br>Inside perspectives – Outside perspectives<br>Historical views – Contemporary (scientific) views<br>Local nuances – General solutions | North – South<br>Rural – Urban<br>Federal – Provincial<br>Health [care] system – Non-health [care] system<br>Ministry – Ministry<br>Primary – Tertiary<br>Community health – Acute care<br>Community – Community<br>Community – Health system<br>Discipline – Discipline<br>Sector – Sector<br>Individual – Health system<br>Local – System<br>Local transportation – System transportation<br>Local – Regional<br>Local – Health Service Delivery Area (HSDA)<br>Parts – System<br>HSDA – Health system<br>Health Authorities – Ministry of Health<br>Information confidentiality – Information sharing<br>Union – Non-union<br>Aboriginal – Non-Aboriginal<br>Traditional medicine – Western medicine<br>First Nations health – Mainstream health system<br>On-reserve – Off-reserve |

We are reminded again of the relationship between wholeness and fragmentation (Bohm, 1980). Bohm describes the issue as, whereas the nature of reality is a coherent, unbroken, and flowing whole, we have a propensity to make sense of the whole by thinking in convenient, but artificially fragmented ways. Compounding this tendency is the further inclination to directly accord and, thus, confuse our thought with reality. Deceptively, this leads us to see and experience reality as fragmentary. This illusion of the world-as-fragments seriously undermines the unbroken and flowing wholeness of life, of reality. Put another way, this fragmentation simultaneously creates and reifies illusory boundaries. We then behave, often subconsciously, in ways that support this way of thinking, speaking, and acting.

Developing and maintaining coherence at these intersections of social worlds—boundaries—reinforces the relevance of boundary objects. At these intersections various representations of stakeholders' worldviews, including the integrity of shared information, are called upon in order to satisfy multiple realities and concerns (Star & Griesemer, 1989).

## Boundaries and Boundary Objects in the North West

Emerging from the constructivist grounded theory approach I used to analyze qualitative data generated in the study, were the boundary and, consequently, the boundary object core-categories. This prompted me to conduct yet another analysis of the qualitative data by stakeholder group (public, managerial, clinical, policy-maker). I identified the main boundary dynamics in each transcript (43 semi-structured interviews;

4 focus groups; and, the 2-day search conference). Consequently, I undertook a comparative analysis of the qualitative data generated by the four stakeholder groups and three methods. This is a form of participant and methods triangulation. I categorized over 40 boundaries into two major conceptual categories, tangible and intangible.

However, this didn't resolve the boundary objects question and inspired yet another line-by-line analysis of the data. After further review and refinement, I compiled these boundary objects into four main categories. Three of these categories neatly coincided with the boundary object characteristics developed by Carlile. However, one category did not (phronetic). It is this latter category which provides the basis for adapting and building upon Carlile's Integrated 3-T Framework.

## Syntactic Boundary and Boundary Objects

From the North West data in the current study, a number of boundary objects emerged in the syntatic category. They include, for the most part, national, provincial, and local repositories of public sector information and data.

## Semantic Boundary and Boundary Objects

From the North West data, several boundary objects are identified in the semantic category, for example, the Public Health Act, Performance Agreements, Policies, Standards, Clinical Practice Guidelines, and the like.

## Pragmatic Boundary and Boundary Objects

From the North West data, unlike the automobile and aerospace industries, very diverse examples of this category show the complexity of the health system in a predominantly public sector setting, for example, population health model, health authority redesign plan, population-baed funding formula, Northern Health Authority, pilot projects, maps, and so on.

## Phronetic Boundary and Boundary Objects

The concept of *phronesis* is of Aristotelian origin, and is best understood in the context of two other concepts: *episteme* and *techne*. Although I introduce these concepts here, I discuss them more fully in Chapter Six during the development of a conceptual framework. Episteme is concerned with "contemplative ways of knowing….accord[ing] rather closely to…the term *theory* [emphasis in original]." Techne "is a form of knowledge that is inherently action oriented and inherently productive.…the objective…is application of technical knowledge and skills." Additionally, techne practitioners, while engaging local stakeholders, are experts who privilege their own knowledge over that of local stakeholders and do things for, not with, them (Greenwood & Levin, 2005, p. 50). Phronesis, on the other hand, is practice-oriented and underscores the notion of "know[ing] how to act in real-world contexts with real-world materials." (Greenwood & Levin, 2005, p. 51). More specifically,

> *[ p]hronesis* is best understood as the design of action through knowledge construction with the legitimate stakeholders in a problematic situation. The sources of *phronesis* [emphases in original] are collaborative arenas

> for knowledge development in which the professional researcher's knowledge is combined with the local knowledge of the stakeholders in defining the problem to be addressed. Together, they design and implement the research that needs to be done to understand the problem. They then design the actions to improve the situation together, and they evaluate the adequacy of what was done. (p. 51)

Toulmin (1996, p. 210) reminds us that the outcome of action research (cf. CBPR) is phronesis: "practical wisdom is *shown* [emphasis in original] in concrete, particular, local actions to remedy a situation." Similarly, Greenwood & Levin (1998, p. 111) characterize action research as "the process of bridging local knowledge and scientific knowledge, a process that will create both new local knowledge and new scientific understandings." One particularly effective way to accomplish this is by emphasizing a relatively little known method, the search conference—a method within the family of community-based research approaches. This method was discussed in detail in Chapter Three. A search conference is a collaborative, participative two- or three-day event at which a relatively large group of key stakeholders meet. Their purpose is to collaborate across boundaries in order to interpret history, develop common goals, create and prioritize concrete action plans, link these plans with action groups for collective action, and establish lasting relationships (Emery & Purser, 1996; Greenwood & Levin, 1998; Weisbord & Janoff, 2000). The search conference typifies a boundary object at the phronetic boundary level. However, it is but one example in the context of action-oriented participant collaboration to address in real-time the issues that are timely and relevant to local realities.

The boundary objects most relevant to phronetic boundaries are best described in terms of praxis, continual iterations between theory and practice, between knowing and acting. These boundary objects comprise the fourth category referenced above. During the course of qualitative data analysis undertaken to specifically identify and categorize boundary objects, I concluded that these emergent boundary objects simply did not, and could not, fit with the Carlile framework. As these boundary objects were categorized they, in turn, created the fourth boundary level: phronetic. These boundary objects are very diverse, extending beyond the usual elements of the health system, and include the following examples drawn from the empirical data: public forums, provincial planning table, participatory research methodologies, kitchen table, peoples' stories, community days, potlatch, fish camp, retreat [NHA], community consultation process, and case management services.

What these examples highlight at this boundary level are their fluid, real-time participatory and collaborative characteristics in locally-situated, multi-stakeholder, boundary-crossing settings. Such boundary objects, through a conscious or unconscious praxis meld knowledge and action. This is accomplished in ways that are meaningful and relevant to local stakeholders and their real-world circumstances. Thus, this is much more than the transformation of knowledge at the pragmatic boundary level. At this level, knowledge and action become unified by means of the boundary objects deemed appropriate by local stakeholders to meet their local circumstances, specifically in places of relevance. In this way, the local, complex, diverse, dynamic, unpredictable realities of life can be met, as suggested by Chambers (1997, p. 32). As Casey (2003, p. 2245) proposes in a “place-world…we would pay much more attention to the peculiarities and heterogeneities, the special stories and local customs of any particular locale.” This attention, in particular the special stories at the local level, (a) signifies CAS, (b) demonstrates CBPR, (c) respects place, (d) supports KT, and (e) enables the meshing of the boundaries between research and action (i.e., the real-time implementation of the research findings). In real-world research, this is critical because communities are now much more emphatic about local relevance and moving beyond the talk. Actively engaging and enabling local stakeholders, indeed, heightens this expectation.

The essence of research / practice praxis, is richly evident in the data representing the responses by North West study stakeholders. These participants characterized and elaborated upon the issues from their perspectives as managers, parents, clinicians, and policy-makers with remarkable consistency and cohesion. Similarly, these varied stakeholders (managers, clinicians, policy-makers, public) intuitively, but not necessarily explicitly, embrace a community-based approach as a boundary object. Similar messages from multiple stakeholders, including Aboriginal participants, serve to reinforce the critical importance of a CBPR approach that respects, engages, and applies the knowledge at the community level and connects this to the broader system.

As the North West study progressed, constructivist grounded theory based on several of the initial semi-structured interviews yielded preliminary findings, including the concept of boundaries. Thus, when the focus groups took place, the early findings were shared, including early thoughts on boundaries. That these concepts resonated with study participants was reflected in the conversations, including use of the term boundary.

## Summary

This study draws from an integrative framework for managing knowledge across boundaries, which was developed in the context of innovation and new product development (Carlile, 2002, 2004a, 2005). The concept has been further developed and applied in the public sector industry, and through this study to health services. Qualitative data were analyzed using constructivist grounded theory with emergent core conceptual categories of boundaries and boundary objects. Boundaries and boundary objects in this study support and substantially expand the concept.

In the next Chapter, I reflect on the findings discussed in Chapter Four and suggest their implications for a health services planning model. Through a series of Venn diagrams, I develop a shared conceptual model for planning child and youth health services that integrates the basis tenets of CAS, CBPR, KT, and place. The value of this model is its ability to help all stakeholders focus on the problem and solutions most relevant to local realities in the context of the broader health system, and creates a real-time means to link research, practice, and policy.

# CHAPTER FIVE: Discussion, Implications, and Concluding Remarks

## Weaving Together the Conceptual Strands

I have introduced many concepts throughout the course of this thesis some of which, on the surface, may not appear connected. To demonstrate the relationships, particularly those raised in the context of the literature reviewed in Chapter Two and the findings presented in Chapters Four and Five, I now shift to a graphic representation of these concepts by introducing a series of Venn diagrams (Figures 19 – 29). Through these, I portray the conjuncture (a combining or joining together) of, and interfaces generated by, the concepts raised in the course of this thesis. There is a loose hierarchical relationship among the concepts, moving counterclockwise from circles (a) – (d) within each Venn diagram. However, this depiction does not imply a hierarchical relationship between the figures. These increasingly dynamic boundary interfaces reflect, in approximate terms, the three conceptual categories introduced in Chapter Four. The dynamics created by, at, and between these interfaces (or boundaries) give rise to the analytical concept of boundary objects, as discussed previously.

Through the sequential introduction and discussion of the Venn diagrams, I construct a substantive theory as the basis for an integrative framework (shown in Figure 29). While this sequential approach is necessary for introductory and explanatory purposes, the relationships between the concepts are not linear. Rather, the theory is constructed, integrated, and explained holistically through the interplay of these concepts.

This approach respects and takes into account the many variations of boundaries and boundary objects as raised through the multiple perspectives of the participants. These are developed as interrelated concepts through constructivist grounded theory analyses and development of the core categories as discussed earlier.

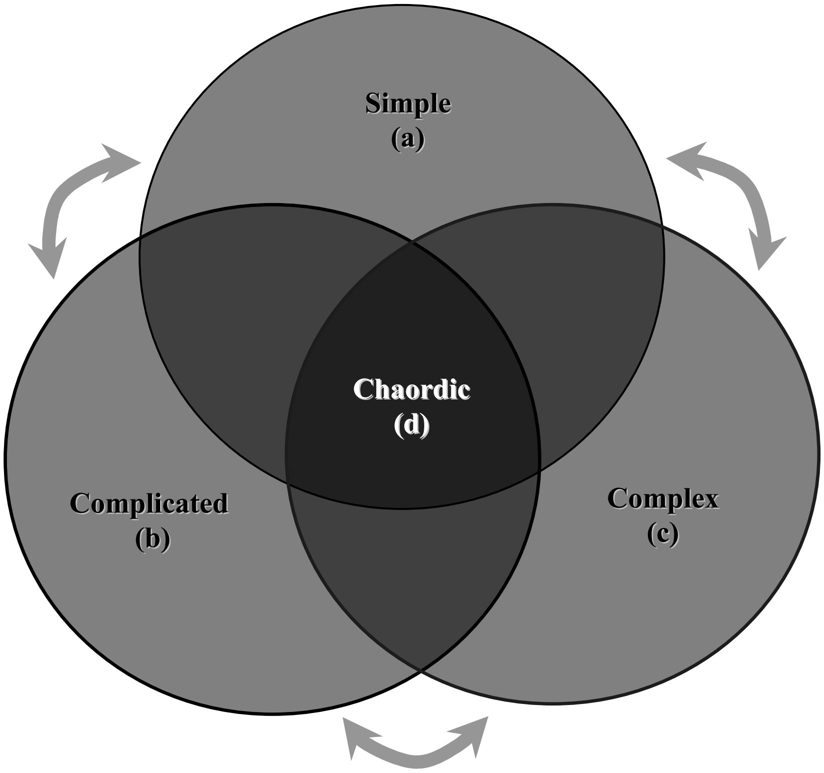
## The Boundary Interfaces

### Perceptivity about the Health System

As discussed in Chapter Four, perceptivity in the context of this study concerns three general areas: (a) how the provincial health system is conceptualized, (b) how issues in health services planning are approached, and (c) how to specifically address day-to-day practical issues. In the following set of five Venn diagrams, I portray several inter-relationships that contribute to the complexity of the health system, emphasizing the need for a collective conceptualization. Here, it is important to avoid the trap of fragmentary thinking when holistic thinking is necessary. Further, this emphasizes the need for all stakeholders to address their own, and each other's, local relevance in terms of *lcddu* realities, as discussed earlier. This suggests a need to move beyond the tendency of some researchers and decision-makers to collect and become mired and muddled in more data. Rather, relevant data plus meaning created through local stories, experiences, reflections, values, and situational wisdom together reflect a multi-perspective reality that is more closely aligned with the real-world. This honours and is highly relevant to the local environment. Examples of boundary objects as raised by study participants, and identified through my analysis of the qualitative data, are included in the discussion of each Venn diagram.

First, I suggest how to conceptualize the health system, which includes Figures 18 – 22. Figure 18 depicts the interfaces associated with (a) a zone of agreement and certainty (i.e., relatively simple), moving towards zone (d) typified by high levels of uncertainty and disagreement (i.e., chaordic—chaos and order).

**Figure 1. Chaordic: The Interface of Simple, Complicated, and Complex.**



This figure adapts and builds upon a characterization by Stacey (1996, as cited in Zimmerman, Lindberg, & Plsek, 1998) and Zimmerman, Lindberg, & Plsek (1998) who relate the need to use a method appropriate to the level of certainty and agreement in a

CAS (such as an organization) in order to resolve an issue. I outline these basic concepts, incorporating boundary and boundary object concepts as discussed in Chapter Five, as follows. High agreement and high certainty, (a), is typical of stable situations where repository data can be effectively used and where relatively simple, repetitive solutions are appropriate (comparable to boundary objects associated with syntactic knowledge boundaries where accurate data leads to enough knowledge to make appropriate decisions). Here, knowledge is transferred. Participants raised, for example, Statistics Canada, Canadian Institute of Health Information, and the Northern Health website as typical syntactic level boundary objects.

In the complicated area, (b), the importance of negotiation, judgement, and compromise are evident in decision-making (comparable to boundary objects associated with semantic knowledge boundaries where interpretation and communication are critical). Here, knowledge is translated. Participants raised, for example, the Public Health Act, the Health Transfer Agreement, and health policies and standards as typical semantic level boundary objects.

In the complex area, (c), or “edge of chaos” as it is also known, traditional approaches do not work very well. Rather, approaches need to reflect a break from common practice and infuse creativity and innovation. This is comparable to boundary objects associated with pragmatic knowledge boundaries, where the dynamics inherent in complex environments demand that the stakeholders resolve their differences and work towards a practical solution. Here, knowledge is transformed. Participants raised, for example, the population health model, the Health Authority redesign plan, business plans, and the population-based funding formula as typical pragmatic level boundary objects.

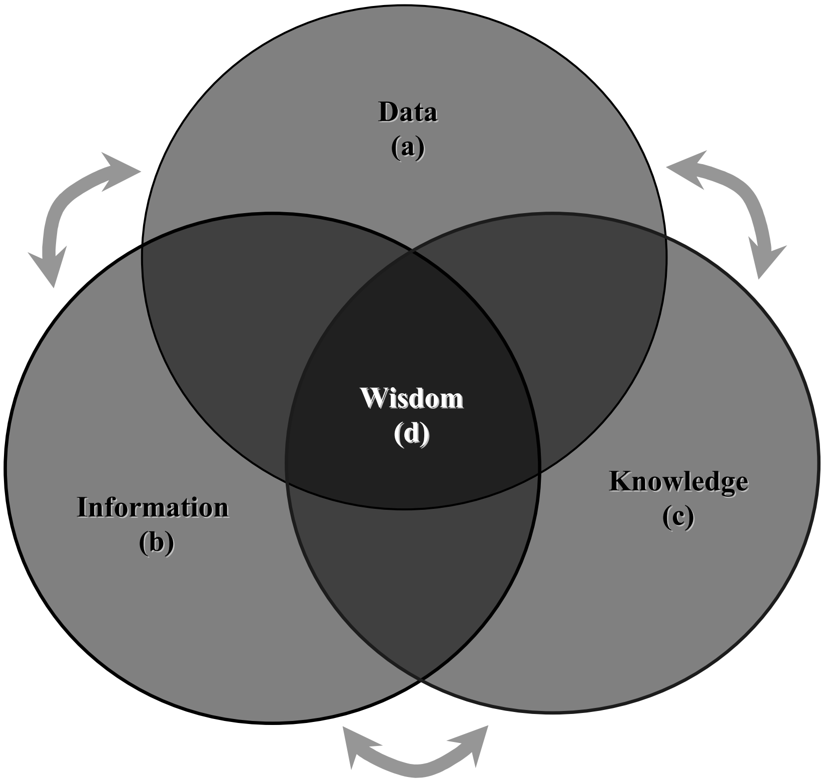
Stacey suggests a further area—anarchy (massive disorder)—where the situation reflects a high level of disagreement and uncertainty. Typically, this area should be avoided. However, in the day-to-day reality of life, including health services planning and delivery, what ought to be embraced when there is a high level of disagreement and uncertainty is the chaordic area, (d), a term coined in the mid-1990s by Hock (1996, n.p.). This refers to "any self-organizing, adaptive, nonlinear complex system." A chaordic state contains both chaos and order, representing what Stacey (1992) characterizes as "bounded instability" with hidden patterns and conflict, and which is inherently unpredictable and sensitive to small changes. Stacey (1992) asserts that it is important to manage and take action at this order-chaos boundary. Typical phronetic level boundary objects raised by participants in this area include public forums, provincial planning tables, turf wars, and public participation processes.

This diagram shows the interfaces created by such boundaries in the health system in terms of CAS and suggests that the chaordic process in the core area is a boundary object, reflecting the properties of self-organization, adaptiveness, non-linearity, and complexity. Even environmental factors such as unpredictable weather conditions in the North West, for example, contribute to the manifestation of these properties.

Figure 19 illustrates the interrelationships of data, information, knowledge, and wisdom. Clarke & Rollo (2001) describe this as a hierarchical relationship including, in their model, *insight* between the levels of knowledge and wisdom, as depicted in Figure

17 in Chapter Five. This intermediary level is conceptually similar to knowledge, by definition, and I exclude it here only for diagrammatic convenience.

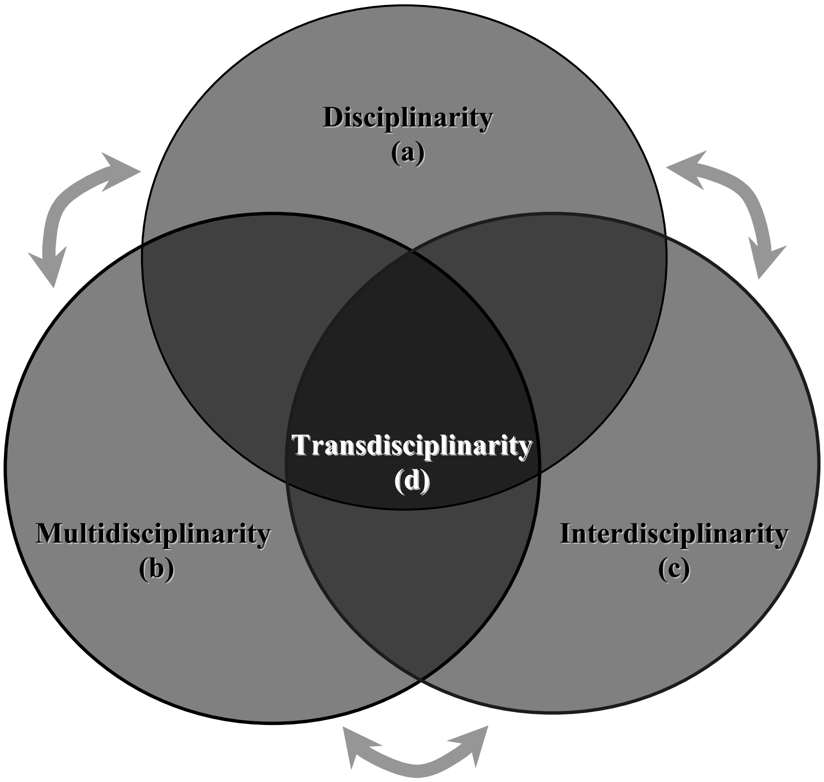
**Figure 2. Wisdom: The Interfaces of Data, Information, and Knowledge.**



To review, the knowledge management framework developed by Clarke & Rollo distinguishes these levels as follows: data—facts without context or judgment; information—data with relevance; knowledge—information with insights; and, wisdom—the best use of knowledge. It is this situational wisdom towards which we strive, but not necessarily alone. Situational wisdom is akin to the concept of phronesis as discussed earlier and is intimately tied to collective knowledge and action. Greenwood & Levin (2005) emphasize the inherently collective nature of knowledge, socially constructed by people who work together to develop and share knowledge. Likewise, Capra (1996), in the context of systems thinking, suggests that knowledge is a network. In particular, he presents scientific knowledge as a network, which incorporates concepts and models; however, the notion that one part, level, or scientific discipline is any more fundamental than another is rejected. Rather, the relationships and patterns are primary considerations in systems (holistic, contextual) thinking. This is reinforced by participatory research methods, which democratically engage in the co-generation of group knowledge (Greenwood & Levin, 1998, 2005; Phelps & Hase, 2002). In this context, participants raised a number of phronetic level boundary objects, including taking a strength-based approach to planning services, a social planning council, and family focus groups.

In Figures 20 and 21, I show the interfaces between disciplines and between sectors, respectively. Bammer (2003) and Rosenfield (1992) distinguish between the terms multidisciplinarity, interdisciplinarity, and transdisciplinarity. Multidisciplinarity refers to working on a common issue from a discipline-specific basis. Interdisciplinarity addresses a common issue from a joint, but discipline-specific basis. Transdisciplinarity draws from specific disciplinary theories and concepts, but uses a shared conceptual framework to address a common issue in a more coherent way. Van Manen (2001, p. 850) further characterizes transdisciplinarity as a "new epistemology…that…is more context sensitive [as opposed to 'scholarship sensitive'], eclectic, transient [as opposed to 'systematic'], and inventive than traditional…interdisciplinary and cross-disciplinary research practices and methodologies." Ashburner (2001) believes that the strength and future of organization behavior lies in transdisciplinarity. In suitable circumstances in health services research and planning, more attention must be focused on this concept.

**Figure 3. Transdisciplinarity: The Interfaces of Disciplinarity, Multidisciplinarity, and Interdisciplinarity.**



These situations enable the creation of the conditions to share conceptual frameworks necessary to develop new forms of collective knowing and acting. The reckless use of language here is noteworthy. In many cases, where the concept of transdisciplinarity is sought, the terms multidisciplinary, interdisciplinary, and cross-disciplinary are used with little thought, resulting in the unnecessary perpetuation of confusion surrounding these terms. However, it is equally important to recognize the place that a disciplinary focus plays in research and in the application of knowledge in settings that may not require a transdisciplinary setting. This also applies to the discussion on sectorality and culturality.

The foregoing considerations generally also apply to sectorality. For the purposes of this discussion, I refer to these in health services as different sectors within and between different Ministries, such as health, education, child and family development, justice, recreation, and federal/provincial jurisdictions. I propose here to move toward a shared conceptual model to address transsectorality. This is similar to the notion of transdisciplinarity and focuses on creating the necessary enabling conditions to develop new forms of collective knowing and action, beyond that possible from only individual sectoral perspectives. Types of phronetic level boundary objects that were raised by study participants include an inter-governmental joint management table, child and youth mental health teams, and interagency coordination.

**Figure 4. Transsectorality: The Interfaces of Sectorality, Multisectorality, and Intersectorality.**

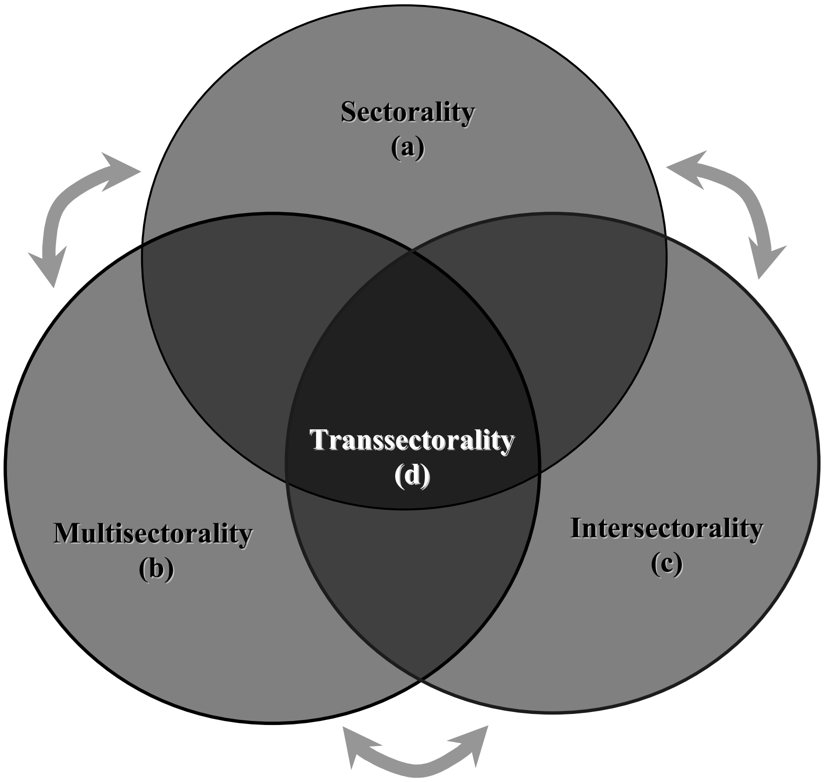
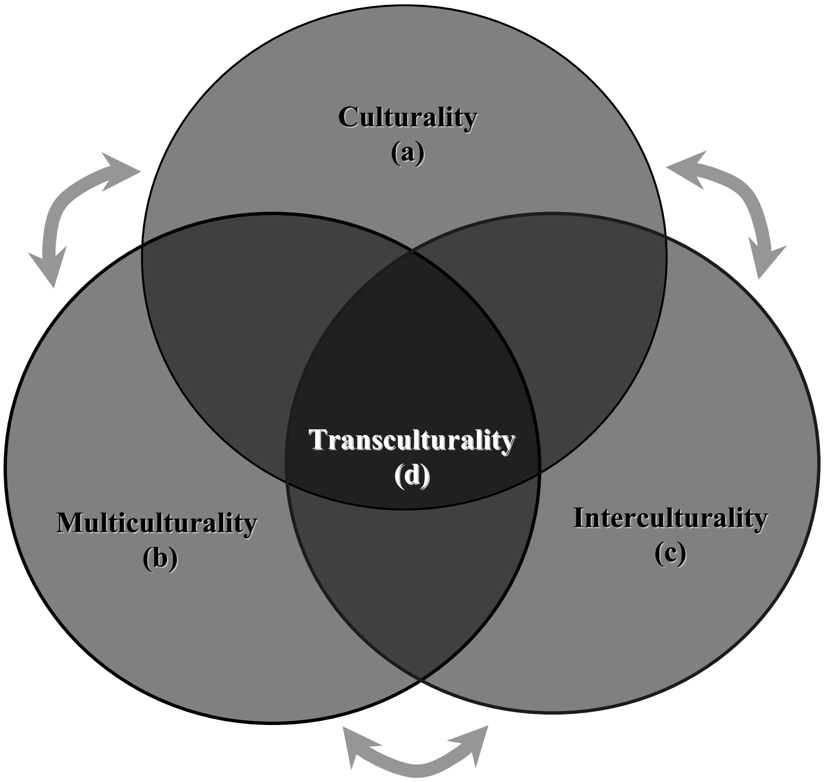


Figure 22 is similar to the interfaces outlined in Figures 20 and 21 and portrays transculturality. While I appreciate that there are a number of different cultures and ethnic groups in the North West, the principal relationships in this study are concerned mainly with the interfaces between Aboriginals and non-Aboriginals. Many of the issues related to culture are discussed in Chapter Four and won't be repeated here. Of importance is the need to enable the creation of a shared conceptual framework that transects different cultures. The notion of transculturality focuses on engaging in a shared conceptual model with a view to identifying and addressing a common issue. This is difficult in practice, mainly because different worldviews have created tensions, even conflict, as evident in the data generated by this study and as I reviewed earlier in this chapter. Types of phronetic level boundary objects raised by participants include community briding events for Aboriginals and non-Aboriginals, feasts, multicultural festivals, and workshops that explore Aboriginal ways regarding children. Cultural sensitivity was identified as a significant priority regarding challenges to co-operation during a follow-up forum on "Integrating Child, Youth, and Family Services in the North West" (North West Working Group, 2005), which included many Aboriginal participants who were able to reinforce concerns around this issue in a collaborative planning milieu. This includes ensuring the use of research tools that are culturally sensitive and appropriate so as to minimize the risk of emotional harm to participants (Fletcher, 2003).

**Figure 5. Transculturality: The Interfaces of Culturality, Multiculturality, and Interculturality.**



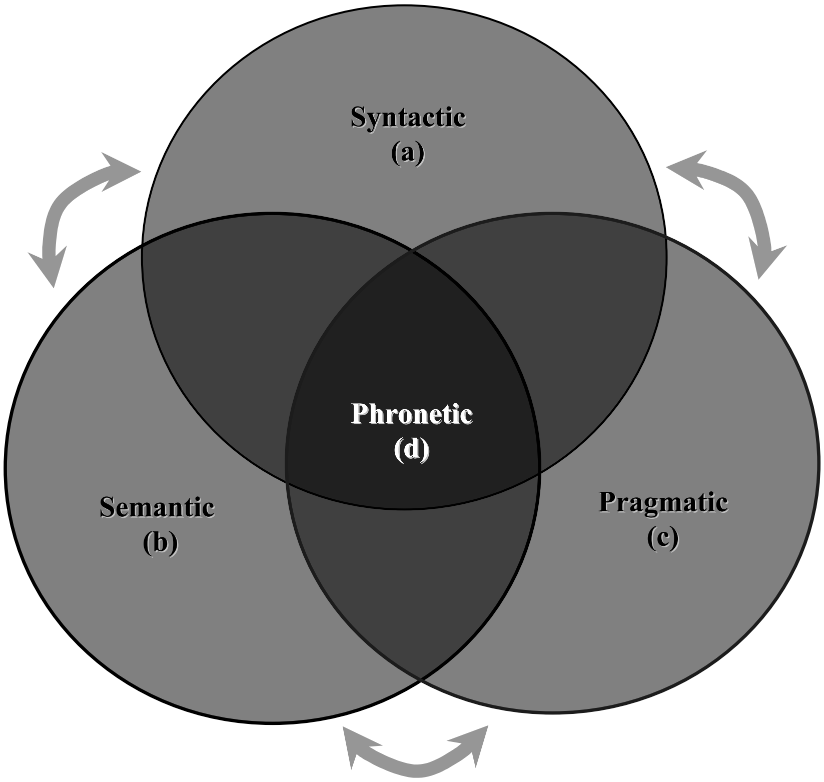
## Emotivity Generated by the Health System

As I emphasized in Chapter Four, the data demonstrate a strong emotive undercurrent that pervaded responses in all stakeholder groups in this study. Attention to emotional reactions, and how we learn through such responses, are more important than has been acknowledged in public decision-making and in the planning literature (Forester, 1999). Here, as Forester (p. 80) argues, "practice leads theory, in planning and public decision-making, by light-years." He specifically refers to telling stories and presenting sketches as important to public deliberation and as ways to learn about what is "burning" someone, thus allowing others to learn – both about the emotion and its context. As I discussed in Chapter Four, these are examples of boundary objects that exemplify praxis under phronetic knowledge boundary conditions.

The next set of three interfaces (Figures 23 – 25) collectively reflect a visible emotivity generated by the health system that, unsurprisingly, is captured in the context of knowledge boundaries and in their respective boundary objects as discussed in Chapter Five.

Figure 23 illustrates the knowledge boundaries introduced earlier—syntactic, semantic, pragmatic, and phronetic. By way of review of the Carlile (2004) model, at the syntactic (information-processing) boundary level, knowledge is simply transferred between a sender and receiver, relying predominantly on a common lexicon or syntax. The next level is the semantic boundary where increasing novelty creates a lack of clarity resulting in interpretive differences and communication problems between stakeholders. The third level identified in the Carlile framework is the pragmatic (transformation or political) boundary when novelty requires stakeholders to resolve their different interests to create common interests. As an expansion of the Carlile model, and as developed from the data in this study, I characterize the phronetic boundary level as fluid, real-time, participatory, and collaborative actions in locally-situated, multi-stakeholder settings. This stretches beyond the transformation of knowledge at the pragmatic boundary level. At this level, knowledge and action are unified, meaningful, and relevant to local stakeholders in their real-world circumstances. What is "burning" someone is made public and others can learn and respond accordingly. Typical phronetic level boundary objects elicited from the participants during the course of the study include those referenced in the other Venn diagrams. In the present context, these are further exemplified by peoples' stories, kitchen table discussions, listserves, and bulletin boards on community issues.

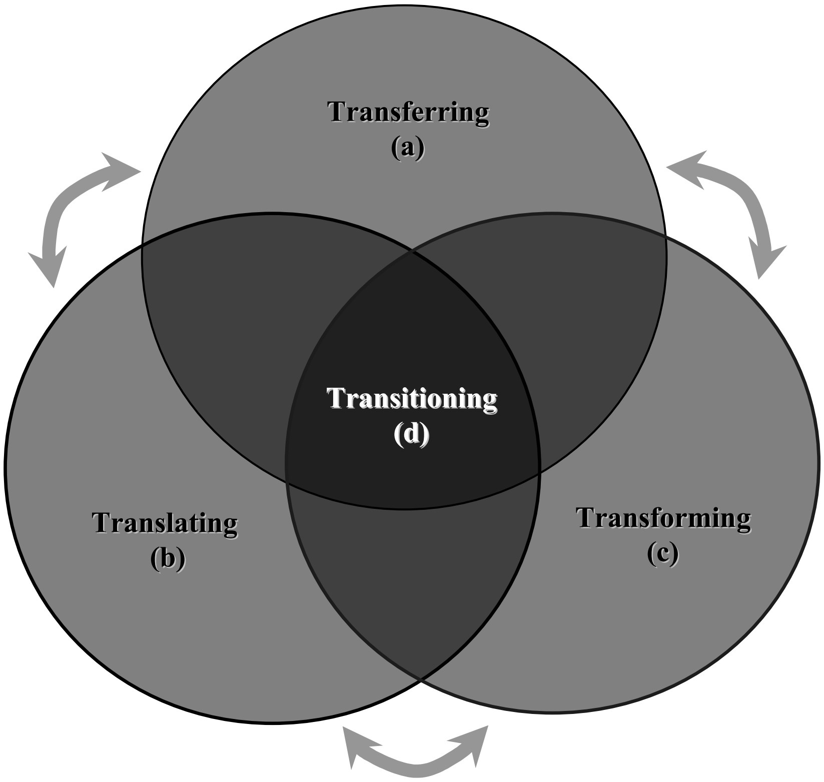
**Figure 6. Phronetic Knowledge Boundary: The Interfaces of Syntactic, Semantic, and Pragmatic Knowledge Boundaries.**



In Figure 24, I display the three main boundary interfaces involved in two contexts : in the context of knowledge linkage and exchange (popularly articulated as transfer, translate, and transform, although current discourse tends to blur these terms as

KT); and, in terms of how knowledge is shared and assessed across boundaries (Carlile, 2004). Transitioning in this context refers to changing from one place or condition to another (Concise Oxford Dictionary, 1995). With respect to place, as I discussed in Chapter Two, this is relevant in terms of acknowledging and changing the meaning afforded to place when new knowledge is introduced to address increasing novelty characteristic of chaordic environments, as discussed in relation to Figure 18, and in terms of wisdom in relation to Figure 19. Again, phronetic level boundary objects advanced by participants include public forums, provincial planning tables, public participation processes, and taking a strength-based approach to planning services. Holding retreats and community development and consultation processes are further examples.

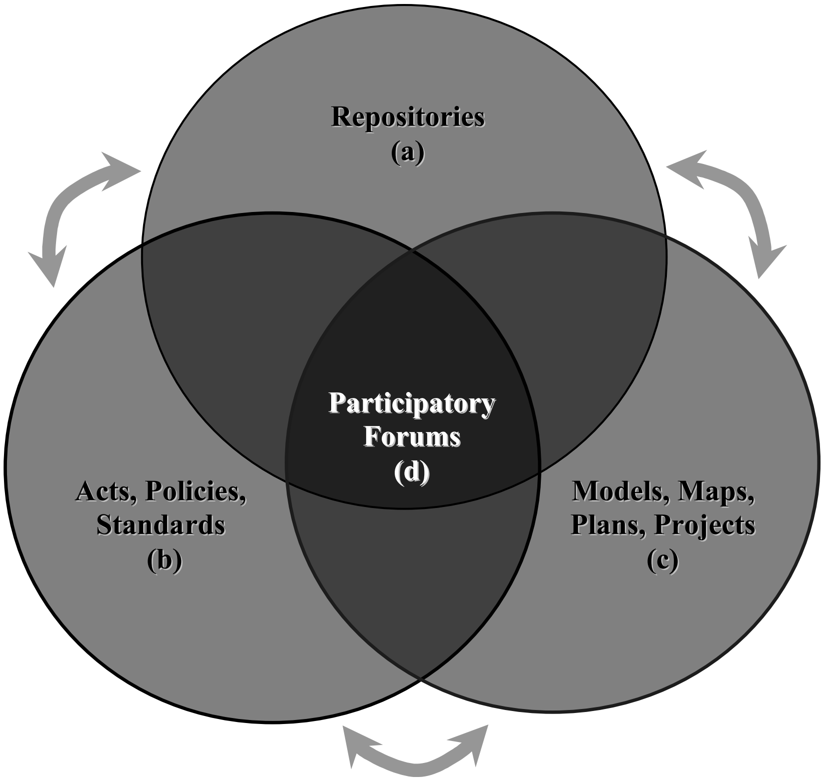
**Figure 7. Transitioning at Knowledge Boundaries: The Interfaces of Transferring, Translating, and Transforming Knowledge.**



In Chapter Two, I noted that explicit attention to people, process, and partnerships is essential to achieving the goal of KT. Failing this, even the basic tenets of KT cannot be appropriately addressed. The interfaces between determining what works (research) and doing what works (practice) highlights not only the critical role of KT, but the role of the health services research methods used as a means (boundary object) to transect the research-practice boundary. I elaborate upon this further in Figure 25 in the context of participatory forums, such as CBPR. CIHR (2002) emphasizes the importance of relationships in KT based on trust between knowledge creators and knowledge users. As I discussed in other sections, this process is complex, time-consuming, and resource intensive. However, the alternative (which is the status quo for the most part) may be even more costly in terms of repeating the same mistakes and not learning from them (i.e., the significance of double-loop learning).

Figure 25 demonstrates the interfaces between types of boundary objects that I introduced in Chapter Five. From the Carlile (2004), Star (1989), and Star & Griesemer (1989) literature, we are reminded that boundary objects are elusive and can be variously described as things, concepts, methods, entities, and models.

**Figure 8. The Interfaces of Boundary Objects: Repositories, Acts/Policies/Standards, Models/Maps/Plans/Projects, and Participatory Forums.**



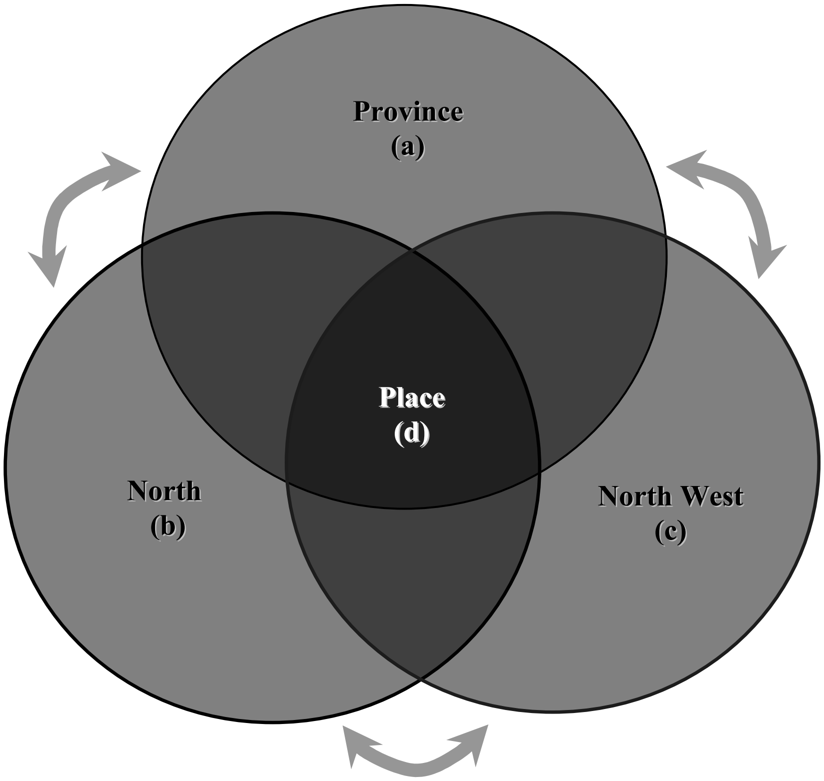
Typical repositories are medical libraries and health services administrative databases, which aid in representing knowledge at the boundary interfaces. Semantic boundary objects, such as health services acts, policies, and standards provide a means for stakeholders to describe and address their certainties and uncertainties and learn from the problems they are facing. Pragmatic boundary objects, such as service delivery models, maps of health services jurisdictions, health services plans and projects, assist stakeholders to apply their respective knowledge toward transforming knowledge (changing old knowledge) in use at the boundary. Finally, as I found in this study, the boundary objects most relevant to phronetic boundaries are best described in terms of praxis—continual iterations between theory and practice, and between collective knowing and acting. Participatory forums in locally-situated, multi-stakeholder, knowledge boundary-crossing settings are critical to the success of melding collective knowledge and action. Many of these forums are advanced in the discussion of other Venn diagrams earlier in this chapter.

## Inclusivity in the Health System

In Chapter Four, I discussed inclusivity, which centres mainly on the concept of community and the importance of creating a sense of community in which local participation and input in the planning process is respectfully and appropriately sought, heard, and used. Creating the conditions by which this genuine engagement can occur is paramount to success. Addressing real-world, practical issues from the perspective of honoring particularity (as opposed to generality), as determined by local needs, substantively contributes to furthering the notion of inclusivity.

The final set of three interfaces (Figures 26 – 28) collectively reflects inclusivity in the health system. In Figure 26, I portray the central role that place plays in the interfaces between the province as a whole, the North, and the North West.

**Figure 9. Place: The Interfaces of the Province, North, and North West.**



The sense of place, even in one area like health services, is generally weak at the provincial level and comparatively stronger at the local community level. In Chapter Two, I suggested that the concept of place is critical to locality and community. By way of reflection on this point, Casey (2003, p. 2247) characterizes this as “the praxis of place”—an “intimate dialectic”—in a “place-world” (p. 2245). As Joseph & Phillips

(1984) remind us, locality is where detailed planning needs to make sense of the broader objectives. This is the boundary interface where supply meets demand. Similarly, Kearns & Gesler (1998) reinforce that health policy cannot be dislocated from community; similarly, community and local territory cannot be dislocated. Again, in the context of knowledge, Davies, Day, & Williamson (2004) emphasize the importance of place, among other things, when knowledge is formed.

Participants raised a number of examples at the phronetic boundary level. These include a local community-based Health Watch Committee, town meetings, community consultation processes, and the role of organizational development change agents and health service navigators who facilitate and coordinate access to services for clients, especially those who are marginalized. Place is a boundary object. Like many boundary objects, place "is both physical and spiritual, concrete and imagined, real and symbolic….Place is as much *who* [emphasis in original] we are, and how we relate to our environment, as *where* [emphasis in original] we are" (Inter Pares, 2003, p.1). Thus, "the rupture of place" (Inter Pares, 2003) strongly influences power, tradition, demands, and constraints leading, often, to alienation. In many ways, the effect of health system reform has been a rupture of place and the emotivity generated by such disruptions. I found that the data were highly suggestive of the impact of such action. Thus, respecting the essence of community, particularly at the local level where it is often most keenly felt, is important to discourse involving change in the health system, including health services planning.

Figure 27 shows the interfaces between individuals in the health system, the departments/divisions/centres in which they conduct research or perform work, and the organizations that employ or retain them. These interfaces suggest a need for inter-organizational networks. As management and organizational scholars such as Chisholm[14] (1998) accurately predicted in the 1990s, inter-organizational networks[15] are rapidly becoming the preferred organizational form to meet the complex demands facing organizations. This applies to both service delivery and research initiatives, increasingly including how research-funding agencies are starting to organize their research programs (Dault, Lomas, & Barer, 2004; Gagnon & Menard, 2001; MSFHR, 2005a, 2005b). A number of examples of networks were described earlier.

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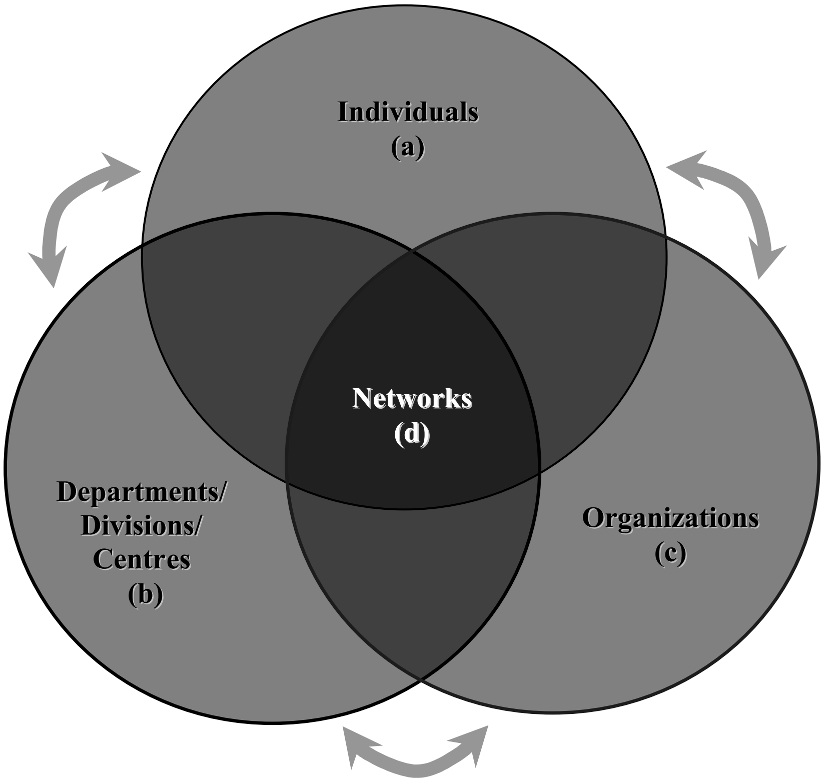
[14] It is with a great deal of sadness that I acknowledge the sudden passing of Dr. Rupert Chisholm in April, 2004 while running, an activity he practiced on a regular basis, in Gettysburg, PA. Rupert has contributed so much to the theory and practice of network organizations and he will be sadly missed. I take renewed heed to the words he penned in my copy of his text on October 29, 2002- “Let’s continue to build a better world via helping develop networks.” I hope that in some small way I can help to build a better world.

[15] Chisholm (1998, p. xxi) defines a network as “a set of autonomous organizations that come together to reach goals that none of them can reach separately.” Chisholm notes that this reflects a number of environmental conditions faced by organizations—increasingly complex issues, growing organizational interdependence, and accelerated change.

**Figure 10. Inter-organizational Networks: The Interfaces of Individuals, Departments/Divisions/Centres, and Organizations.**



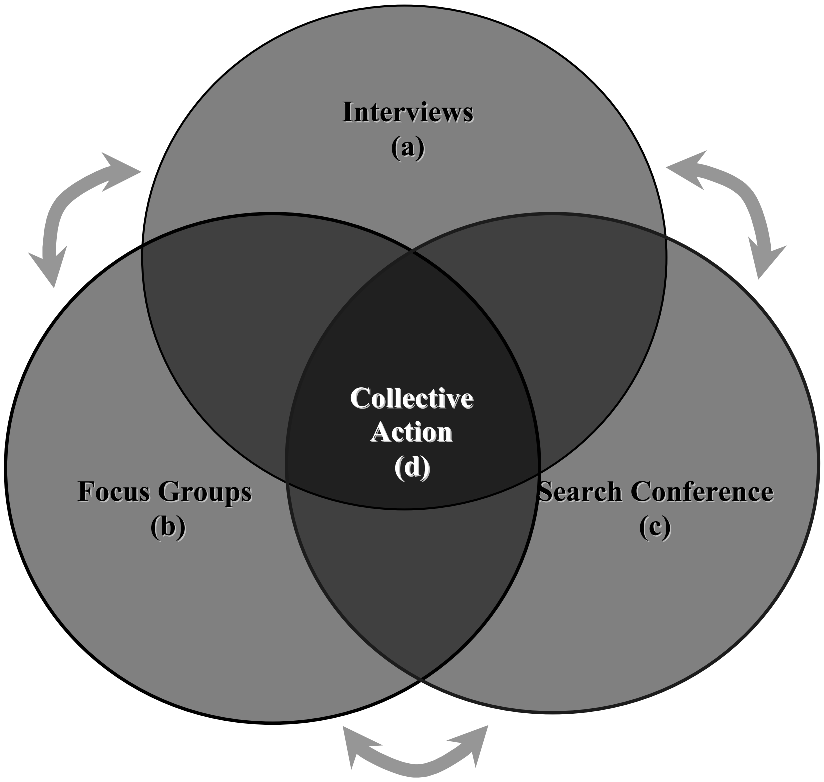
Unsurprisingly, network proponents such as Chisholm (1998, 2004, p. 95) attest to the need to:

- conceptualize the system in order to understand the inherent complexity and resultant ambiguity
- engage in systems level thinking in order to conceptualize and collaborate around “complex metaproblems”
- respect voluntary belongingness to, and non-hierarchy of, the network
- develop a “shared understanding of a problem area”, and
- perform functions basic to the regulation, appreciation, and on-going professional development of the network.

Finally, action research (particularly the search conference method) is seen as integral to network development (Chisholm, 1998, 2001). Again, the search conference exemplifies a type of phronetic level boundary object that is characterized by public participation, participatory research, and community development as raised by participants during the course of this study. In terms of linkage to community and community development, networks have a role to play in both structural and processual terms. For example, Gilchrist (2000) suggests that an awareness of community derives from people being engaged in complex relationships and interactions such as that experienced during network development. In this way, inter-organizational network development for health services delivery and research creates the additional significant benefit of creating a sense of community.

Figure 28 demonstrates the sequence of qualitative methods that I used in this study, including semi-structured interviews, focus groups, and a search conference.

**Figure 11. Collective Action in Qualitative Research Methods: The Interfaces of Interviews, Focus Groups, and the Search Conference.**



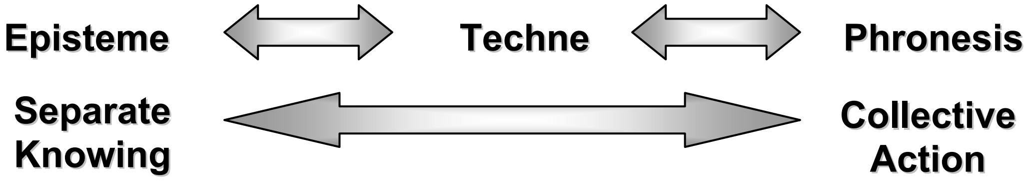
These methods are described in detail in Chapter Three and won’t be repeated here, other than to emphasize the central role of collaborative action—a boundary object, and both a process (means) and a product (outcome) of this participatory research approach. Again, this means moving toward, and focusing on, collective action. As noted earlier, this sequential qualitative methods approach was authenticated well before I completed this study in the North West. This entailed a number of study participants engaging in locally-based planning. Following from the search conference this led, later in the year, to a highly successful forum on integrating child, youth, and family services which was held in Terrace. The theme and commitment was to take “Talk to Action”, including voluntary public commitments by the participants to take further action. This forum and its success demonstrate the value in using this kind of approach and that collaborative knowing and action is possible and can be successful.

## **Towards a Conceptual Planning Framework**

Figure 29 is a conceptual framework in which I incorporate the elements of the initial three conceptual categories introduced in Chapter Four, the two core conceptual categories as discussed in Chapter Five, and the boundary interfaces discussed in this Chapter. Columns (a) – (c) refer to the contents of each of the circles in the preceding Venn diagrams. Column (d), the core, depicts the resultant interfaces of all three circles, including boundary objects created by, and most relevant to, the interface dynamics in each diagram. Recall that in *lcddu* circumstances, it is the core toward which we should progress as a priority consideration in order to move from knowing things to doing things.

**Figure 12. A Conceptual Framework to Guide and Unify Participatory Research and Planning in Health Services.**

| **Relationship to emergent conceptual categories** | **(a)** | **(b)** | **(c)** | **(d)** |
|---|---|---|---|---|
| **Perceptivity about Health System** | Simple<br>Data<br>Disciplinarity<br>Sectorality<br>Culturality | Complicated<br>Knowledge<br>Multidisciplinarity<br>Multisectorality<br>Multiculturality | Complex<br>Insight<br>Interdisciplinarity<br>Intersectorality<br>Interculturality | Chaordic<br>Wisdom<br>Transdisciplinarity<br>Transsectorality<br>Transculturality |
| **Emotivity Generated by Health System** | Syntactic<br>Transferring<br>Repositories | Semantic<br>Translating<br>Acts, Policies, Standards | Pragmatic<br>Transforming<br>Models, Maps, Plans, Projects | Phronetic<br>Transitioning<br>Participatory Forums |
| **Inclusivity in Health System** | Province<br>Individuals<br>Interviews | North<br>Depts./Divisions/Centres<br>Focus Groups | North West<br>Organizations<br>Search Conference | Place<br>Networks<br>Collective Action |



As one advances across the framework from (a) to (d) a number of increasing dynamics are illustrated. I arrived at these by examining the general characteristics of the Venn diagrams, and incorporating suggestions put forward by study participants during the findings sessions: systems orientation; personal meaning; communication;

collaboration; process; novelty; sensitivity; multiplexity; locally relevant action; fluidity; real-world situations; context; energy;

enlightenment; egalitarianism; progress; and, public accountability.

Similarly, progressing from left to right in Figure 29 demonstrates movement, transitioning from separate knowing to collective action. It is beyond the scope of this thesis to discuss in greater detail the original Aristotelian works that gave rise to these concepts. However, for anyone interested in exploring the background to the concepts raised here, the translated works of Aristotle (specifically, The Nicomachean Ethics[16]) are available.

Flyvbjerg (2001, 2003, 2004) revitalizes three Aristotelian intellectual virtues—episteme, techne, and phronesis, which are summarized as follows. Episteme is largely concerned with knowing *why*. This includes universal scientific knowledge, but is independent of context. It aligns somewhat with the tenets of positivism. In contemporary language, this is approximately equivalent to epistemology. Greenwood & Levin (2005) describe episteme as theory and contemplative knowing. Techne is oriented to knowing *how*. This is best described as pragmatic, concrete, and context-dependent knowledge, such as a craft or art, with the goal to apply the knowledge and skills to produce something practical. In contemporary language, terms such as technical and technology reflect this concept. While techne practitioners are collaborative and involve multiple stakeholders, they are characteristically professional experts who “privilege their own

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[16] See, for example, Book VI at http://classics.mit.edu/Aristotle/nicomachean.html

knowledge over that of the local stakeholders"; consequently, they "do things 'for', not 'with' the local stakeholders" (Greenwood & Levin, 2005, p. 51). Phronesis embraces action, focusing on the variability of specific cases (particularity) and with close attention to, and reflection on, values—a conscious praxis. There is no equivalent contemporary term. This term has faded away over time; however, it relates closely to the notion of prudence and situational wisdom. Of these three intellectual virtues, phronesis is considered to be the most important from an Aristotelian perspective because it may be best able to ensure the ethics of science and technology (Flyvbjerg, 2004). Phronesis is value-focused and moves from collective knowing to collective action. Greenwood & Levin describe phronesis as:

> [t]he design of action through collaborative knowledge construction with the legitimate stakeholders in a problematic situation….The sources of *phronesis* [emphasis in original] are collaborative arenas for knowledge development in which the professional researcher's knowledge is combined with the local knowledge of the stakeholders in defining the problem to be addressed. Together, they design and implement the research that needs to be done to understand the problem. They then design the actions to improve the situation together, and they evaluate the adequacy of what was done. If they are not satisfied, they cycle through the process again until the results are satisfactory to all parties. (p. 51)

Flyvbjerg (2003, 2004) uses the concepts and principles embraced by phronesis to inform planning and organizational research. Flyvbjerg (2004) has developed methodological guidelines for phronetic planning research. These include: priorizing values; analyzing the centrality of power; anchoring in reality; attending to "little things"; focusing on practice over discourse; being dependent on case-studies and contexts;

narrating history; analyzing planning actors, their practices, and the structures in which they function; and, dialoguing between multiple stakeholders. In particular, explicit attention to power is central to this kind of planning. Interestingly, however, Aristotle did not explicitly consider power in phronesis; other than Flyvbjerg, neither have other scholars (Flyvbjerg, 2004).

I did not specifically set out to engage in phronetic planning research in this study, nor are the phronetic planning research methodological guidelines summarized above meant to be imperatives. Nonetheless, I am struck by the similarities between this approach and my own study. With the emergence of boundaries and boundary objects from the data in this study and the convergence toward knowledge boundaries and related boundary objects in the context of planning for child and youth health services in North West BC, there is considerable overlap with the notion of phronetic planning research. This study may represent an uncommonly empirical perspective in this regard.

Through this framework, I have suggested an approach to planning and a means to identify, understand, and act upon the issues facing stakeholders involved in child and youth health services planning. While the theory and framework are developed from findings emerging from the qualitative data generated during the course of this research in North West BC, the process and framework should be transferable to other geographical areas, population groups, and health service planning milieus. I now suggest a number of implications of these findings, including: future research, child and youth health services research and planning, inter-organizational child and youth health networks, and stakeholders involved in these processes.

## Transferability and Implications for Future Research

New research in this area revives the old idea of consilience, first raised over a century and a half ago in the context of philosophy and inductive sciences (Whewell, 1840 as cited by Wilson, 1998). I raise it here in the context of the integrative framework that brings together a number of boundary interfaces and the boundary objects that transect them. Similar to the observations of Bohm (1980) and Capra (1996) as discussed earlier, Wilson (1998, p. 41) recognizes that “[t]he ongoing fragmentation of knowledge and the resulting chaos in philosophy are not reflections of the real world but artifacts of scholarship.” He proposes consilience as a promise—the key to unification—“a ‘jumping together’ of knowledge as a result of the linking of facts and fact-based theory across disciplines to create a common groundwork of explanation.” In terms of phronesis and praxis, the promise is that “[o]nly fluency across the *boundaries* [emphasis added] will provide a clear view of the world as it really is.”

Again, we are reminded of the need to pay explicit attention to the boundaries in the health system. As I suggested in Chapter Two in the context of CAS, participatory research, health care geography, and knowledge translation, and as the data in this study have suggested in Chapters Four and Five, boundaries need to be central, not marginal, to the work of health services research, planning, and service delivery. In this context, Hernes & Paulsen (2003, p. 6) purport that “individuals may be considered to be almost perpetually in ‘liminal’[17] situations where they both move between boundaries and carry

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[17] The Concise Oxford Dictionary, 9th Ed. (1995) defines liminal as “occupying a position on, or on both sides of, a boundary or threshold.”

the boundaries with them." The boundary interfaces and conceptual framework developed in this Chapter will assist in this awareness-building and, more importantly, assist in actual planning processes. This suggests both the need for stakeholder awareness of boundaries and boundary objects, and a capacity to incorporate liminality in future research endeavours.

Earlier studies of boundaries have raised implications for future research on the types of boundaries that face stakeholders and what this means to people and organizations (Carlile, 2004). In this study, I have empirically demonstrated many boundaries in the context of child and youth health services and introduced their importance to several stakeholder groups. Further categorization and refinement of these boundaries and the implications for the public, clinicians, managers, and policy-makers are required in terms of awareness-building, education and training, and relevance to the issues being faced. As Paulsen & Hernes (2003) point out, the concept of boundaries has been derived more from a theoretical perspective than from reality. This study has inductively and empirically derived the concept of boundaries in child and youth health services. Further research is required to demonstrate the potential for broader application of the concept in other jurisdictions and with other population groups. Heracleous (2004) calls for further empirical research using a grounded, inductive approach, such as used in this study. Paradoxically, how to bring boundaries (often perceived as marginal) to the *centre* of attention will require a concerted research effort.

Similarly, earlier studies of boundary objects suggest a need to expand their classification (Carlile, 2002; Star, 1989). I have suggested such an expanded classification in the context of child and youth health services through, for example, the introduction of boundary objects relevant to phronetic boundaries. Further classification of the types of boundary objects and their relevance to particular types of health services and other planning environments, and under what conditions are also topics for future empirical research. It would be helpful to examine implications for stakeholders involved in planning health services in other geographical jurisdictions and with other population groups, particularly in circumstances that involve a high degree of collaborative efforts to address complexity, uncertainty, and novelty.

# References

Ahmed, S.M., Beck, B., Maurana, C.A., & Newton, G. (2004). Overcoming barriers to effective community-based participatory research in US medical schools. *Education for Health*, 17, 141-151. Retrieved October 27, 2005, from Academic Search Premier Publications database.

Anderson, M., Cosby, J., Swan, B., Moore, H., & Broekhoven. (1999). The use of research in local health services agencies. *Social Science & Medicine*, 49, 1007-1019. Retrieved December 13, 2002, from http://scholarsportal.info/pdflinks/02111314194427667.pdf

Angeles, P. A. (1981). *Dictionary of Philosophy.* New York: Harper & Row.

Annells, M. (1996). Grounded theory method: Philosophical perspectives, paradigm of inquiry, and postmodernism. *Qualitative Health Research, 6,* 379-393.

Ashburner, L. (2001). Introduction. In L. Ashburner (Ed.). *Organisational behaviour and organisational studies in health care: Reflections on the future* (pp. xii-xxiii). New York: Palgrave.

Bammer, G. (2003). *Integration and implementation sciences: Building a new specialisation*. Received via email April 28, 2004. Available at http://www.anu.edu.au/iisn

Bar-Yam, Y. (1997). *Dynamics of complex systems*. Reading, MA: Addison-Wesley.

Birdsell, J. M., Atkinson-Grosjean, J., & Landry, R. (2002). *Knowledge translation in two new programs: Achieving 'the Pasteur effect'.* Ottawa, ON: Canadian Institutes of Health Research.

Bohm, D. (1980). *Wholeness and the implicate order*. London, UK: Ark Paperbacks.

Boland, R.J., & Tenkasi, R.V. (1995). Perspective making and perspective taking in communities of knowing. *Organization Science*, 6, 350-372. Retrieved June 19, 2005, from JSTOR database.

Brazil, K., MacLeod, S., & Guest, B. (2002). Collaborative practice: A strategy to improve the relevance of health services research. *Heathcare Management Forum, 15*(3)*,* 18-24.

British Columbia Ministry of Children and Family Development. (2004). *Child and youth mental health plan for British Columbia (Revised July, 2004).* Victoria, BC: Author. Retrieved March 18, 2005, from http://www.mcf.gov.bc.ca/mental_health/mh_publications/cymh_plan.pdf

British Columbia Ministry of Children and Family Development. (2005a). *Budget 2005: Service plan: 2005/06 – 2007/08.* Victoria, BC: Author. Retrieved March 14, 2005, from http://www.bcbudget.gov.bc.ca/sp/cfd/cfd.pdf

British Columbia Ministry of Children and Family Development. (2005b). *2004/05 annual service plan report.* Retrieved July 24, 2005, from http://www.bcbudget.gov.bc.ca/annualreports/cfd/cfd.pdf

British Columbia Ministry of Children and Family Development. (2005c). *News release: New crown to deliver, improve community living services (June 30, 2005)*. Retrieved July 24, 2005, from http://www2.news.gov.bc.ca/news_releases_2005-2009/2005CFD0011-000636.pdf

British Columbia Ministry of Health and Ministry Responsible for Seniors. (1999). *Strategic directions for British Columbia's health services system.* Victoria, BC: Author.

British Columbia Ministry of Health Planning. (2001a). *A new era for patient-centred health care: Building a sustainable, accountable structure for delivery of high-quality patient services.* Victoria, BC: Author. Retrieved December 12, 2001, from http://www.healthplanning.gov.bc.ca/socsec/new_era_sustain.pdf

British Columbia Ministry of Health Planning. (2001b). *Aboriginal health planning: Policy, requirements and guidelines 2001/2002 – 2003/2004* Victoria, BC: Author.

British Columbia Ministry of Health Planning. (2002a). *The picture of health: How we are modernizing British Columbia's health care system*. Victoria, BC, Author.

British Columbia Ministry of Health Planning. (2002b). *Service Plan 2002/03 – 2004/05* Victoria, BC: Author. Retrieved November 6, 2002, from http://www.gov.bc.ca/prem/popt/corereview/srv_pln/hlthplanning/hp.pdf

British Columbia Ministry of Health Services. (2004). *PURRFECT 9-ICD10.* Retrieved November 1, 2004, from http://admin.moh.hnet.bc.ca/imgapps/purrfect/purrfect_user_manual.pdf

British Columbia Ministry of Health Services. (2005a). *Budget 2005: Service plan: 2005/06 – 2007/08.* Victoria, BC: Author. Retrieved March 14, 2005, from http://www.bcbudget.gov.bc.ca/sp/hs/hs.pdf

British Columbia Ministry of Health Services. (2005b). *2004/05 Annual Service Plan Report.* Retrieved July 24, 2005, from http://www.bcbudget.gov.bc.ca/annualreports/hs/hs.pdf

British Columbia Ministry of Labour and Citizens' Services. BC Stats. (2006). Retrieved May 8, 2006, from http://www.bcstats.gov.bc.ca/data/pop/pop/dynamic/PopulationStatistics/SelectRegionType.asp?category=Health

British Columbia. Royal Commission on Health Care and Costs. (1991). *Closer to home: Summary of the report of the British Columbia Royal Commission on Health Care and Costs. Volume 1.* Victoria, BC: Author.

Brown, J. S., & Duguid, P. (1998). Organizing knowledge. *California Management Review, 40(3),* 90-111. Retrieved December 13, 2004, from ProQuest database.

Brown, J. S., & Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science, 12,* 198-213. Retrieved December 13, 2004, from INFORMS database.

Bruhn, J. G., Levine, H. G., & Levine, P. L. (1993). *Managing boundaries in the health professions*. Springfield, IL: Charles C. Thomas.

Bryant, A. (2003). A constructive/ist response to Glaser. *Forum: Qualitative Social Research, 4(1), n.p.* Retrieved January 6, 2004, from http://www.qualitative-research.net/fqs-texte/1-03/1-03bryant-e.pdf

Canadian Health Services Research Foundation. (1999). *Issues in linkage and exchange between researchers and decision makers.* Summary of a workshop convened by the Canadian Health Services Research Foundation. Montreal, Quebec. Canadian Health Services Research Foundation. Ottawa, ON: Author. Retrieved January 16, 2002, from http://www.chsrf.org/docs/resource/index_e.shtml

Canadian Health Services Research Foundation. (2000). *Health services research and...evidence-based decision-making*. Retrieved February 6, 2003, from http://www.chsrf.ca/docs/resource/EBDM_e.pdf

Canadian Institutes of Health Research. (2002*). A draft framework for knowledge translation at the Canadian Institutes of Health Research.* Retrieved December 18, 2002, from http://www.cihr.ca

Canadian Institutes of Health Research. (2006). *About knowledge translation.* Retrieved January 2, 2006, from http://www.cihr-irsc.gc.ca/e/29418.html

Canadian Research Transfer Network & Health Research Transfer Network of Alberta. (2002). *Knowledge transfer in health: A report on the 2nd annual Canadian research transfer network conference held in Calgary, October 24, 2002.* Retrieved April 30, 2003, from http://www.research-transfer.org/eng/report.pdf

Caplan, N. (1979). The two-communities theory and knowledge utilization. *American Behavioral Scientist, 22,* 459-470. Retrieved January 7, 2003, from EBSCOhost database.

Capra, F. (1982). *The turning point: Science, society, and the rising culture*. New York: Bantam Books.

Capra, F. (1996). *The web of life*. New York: Doubleday.

Carlile, P. R. (2002). A pragmatic view of knowledge and boundaries: Boundary objects in new product development. *Organization Science, 13,* 442-455. Retrieved December 12, 2004, from ProQuest database.

Carlile, P. R. (2004a). Transferring, translating, and transforming: An integrative framework for managing knowledge across boundaries. *Organization Science, 15,* 555-568. Retrieved December 14, 2005, from INFORMS database.

Carlile, P. R. (2004b). *The dynamics of firm knowledge and competitive advantage: A framework and case example*. Unpublished manuscript, Boston University, MA. P. R. Carlile (personal communication, January 5, 2005).

Carlile, P. R. (2005, October 17). Personal communication.

Carlile, P. R., & Lucas, W. A. (2003). *Managing complex boundaries: Knowledge and boundary activities in technology development teams (Version 2.6).* Unpublished manuscript, Massachusetts Institute of Technology, Cambridge, MA. P. R. Carlile (personal communication, January 7, 2005).

Chambers, R. (1995). Paradigm shifts and the practice of participatory research and development. In N. Nelson & S. Wright (Eds.), *Power and participatory development: Theory and practice* (pp. 30-42). London, UK: Intermediate Technology Publications.

Chambers, R. (1997). *Whose reality counts? Putting the first last*. London, UK: Intermediate Technology Publications.

Chambers, R. (1998a). Foreword. In J. Holland & J. Blackburn (Eds.), *Whose voice? participatory research and policy change* (pp. xv-xviii). London, UK: Intermediate Technology Publications.

Chambers, R. (1998b). Afterword. In J. Holland & J. Blackburn (Eds.). *Whose voice? participatory research and policy change* (pp. 197-200). London, UK: Intermediate Technology Publications.

Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin & Y. S. Lincoln (Eds.). *Handbook of qualitative research* (2nd ed.). pp. 509-535). Thousand Oaks, CA: Sage.

Chisholm, R. F. (1998). *Developing network organizations: Learning from practice and theory*. Reading, MA: Addison-Wesley.

Chisholm, R. F. (2001). Action research to develop an interorganizational network. In P. Reason & H. Bradbury (Eds.). *Handbook of action research: Participation inquiry and practice* (pp. 324-332). London: Sage.

Chisholm, R. F. (2004). Developing networks to deal with complex health care problems. In J. T. Ziegenfuss, Jr. & J. W. Sassani (Eds.). *Portable health administration* (pp. 89-107). San Diego, CA: Elsevier Academic Press.

Church, W. J. B., Saunders, L. D., Wanke, M. I., & Pong, R. (1995). *Building a stronger foundation: A framework for planning and evaluating community-based health services in Canada. Component 2: Organizational models in community-based health care: A review of the literature.* (Cat. no. H39-351/2-1996E). Health Promotion and Programs Branch. Ottawa: Health Canada.

Cilliers, P. (1998). *Complexity and postmodernism: Understanding complex systems*. London, UK: Routledge.

Clarke, A. E. (2005). *Situational analysis: Grounded theory after the postmodern turn.* Thousand Oaks, CA: Sage.

Clarke, T., & Rollo, C. (2001). Corporate initiatives in knowledge management. *Education & Training, 43,* 206-214. Retrieved March 14, 2003, from ProQuest database.

Community Living BC. (2005). *Fact Sheet: MCFD-CLBC Children's Agreement.* Retrieved July 24, 2005, from http://www.communitylivingbc.ca/pdfs/childrens_agreement_jul05.pdf

Concise Oxford Dictionary of Current English. (1995). 9th ed. Oxford: Clarendon Press.

Cornwall, A., & Jewkes, R. (1995). What is participatory research? *Social Science & Medicine, 41,* 1667-1676. Retrieved May 20, 2006, from Elsevier ScienceDirect database.

Cresswell, T. (2004). *Place: A short introduction*. Oxford, UK: Blackwell.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. (2nd ed.). Thousand Oaks, CA: Sage.

Cromley, E. K., & McLafferty, S. L. (2002). *GIS and public health*. New York: The Guilford Press.

Cummins, S., & Macintyre, S. (2002). "Food deserts" – evidence and assumption in health policy making. *BMJ, 325,* 436-438. Retrieved August 23, 2002, from http://bmj.com/cgi/reprint/325/7361/436.pdf

Dault, M., Lomas, J., & Barer, M. on behalf of the *Listening for Direction II* partners. (2004). Listening for direction II: National consultation on health services and policy issues for 2004-2007. Canadian Health Services Research Foundation and Institute of Health Services and Policy Research, Canadian Institutes of Health Research. Ottawa, ON: Canadian Health Services Research Foundation.

Davies, G., Day, R., & Williamson, S. (2004). The geography of health knowledge/s. *Health & Place, 10,* 293-297. Retrieved January 6, 2005, from Elsevier Science Direct database.

Denzin, N. K., & Lincoln, Y. S. (2000). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.). *Handbook of qualitative research* (2nd ed.). (pp. 1-28). Thousand Oaks, CA: Sage.

Diamond, M., Allcorn, S., & Stein, H. (2004). The surface of organizational boundaries: A view from psychoanalytic object relations theory. *Human Relations, 57*(1)*,* 31-53. Retrieved December 15, 2004, from http://hum.sagepub.com/cgi/reprint/57/1/31

Emery, M., & Purser, R. E. (1996). *The search conference: A powerful method for planning organizational change and community action*. San Francisco, CA: Jossey-Bass.

Epstein, C. (1989). Workplace boundaries: conceptions and creations. *Social Research, 56,* 571-590.

Evans, R. G. (2006). Kafka, New Orleans, the OARs and the KT boundary. *Healthcare Policy, 1*(2), 14-20.

Fahey, L., & Prusak, L. (1998). The eleven deadliest sins of knowledge management. *California Management Review, 40,* 265-276. Retrieved December 13, 2004, from ProQuest database.

Finch, H. & Lewis, J. (2003). Focus Groups. In J. Ritchie & Lewis, J. (Eds.). *Qualitative research practice: A guide for social science students and researchers.* (pp. 170-198). London, UK: Sage.

Fletcher, C. (2003). Community-based participatory research relationships with aboriginal communities in Canada: An overview of context and process. *Pimatziwin: A Journal of Aboriginal and Indigenous Community Health, 1*(1)*,* 27-61.

Flood, R. L. (1999). *Rethinking the fifth discipline: Learning within the unknowable*. New York: Routledge.

Flyvbjerg. B. (2001). *Making social science matter: Why inquiry fails and how it can succeed again.* (S. Sampson, Trans.). Cambridge, UK: Cambridge University Press.

Flyvbjerg, B. (2003). Making organization research matter: Power, values, and phronesis. In B. Czarniawska & G. Sevon (Eds.). *The northern lights: Organization theory in Scandinavia.* (pp. 357-381). Stockholm, Oslo, Copenhagen: Liber, Abstract, Copenhagen Business School Press. Retrieved March 27, 2006, from http://flyvbjerg.plan.aau.dk/%20PHRONORG%20FINAL.pdf

Flyvbjerg, B. (2004). Phronetic planning research: Theoretical and methodological reflections. *Planning Theory & Practice, 5, 283-306.* Retrieved March 27, 2006, from http://www.metapress.com/media/2ljgrwvyyr8226vrfl1y/contributions/d/7/6/p/d76pbhv45311wj4w.pdf

Forester, J. (1999). *The deliberative practitioner: Encouraging participatory planning processes.* Cambridge, MA: The MIT Press.

Frisby, W., Reid, C. J., Millar, S., & Hoeber, L. (2005). Putting "participatory" into participatory forms of action research. *Journal of Sport Management, 19*, 367-386.

Gagnon, D., & Menard, M. (2001). *Listening for direction: A national consultation on health services and policy issues.* Summary Report (June 2001). Ottawa, ON: Canadian Health Services Research Foundation.

Garrety, K. & Badham, R. (1999). Trajectories, social worlds, and boundary objects: A framework for analyzing the politics of technology. *Human Factors and Ergonomics in Manufacturing 9*, 277-290. Retrieved June 13, 2005, from http://www3.interscience.wiley.com/cgi-bin/fulltext/62000856/PDFSTART

Gaventa, J., & Cornwall, A. (2001). Power and knowledge. In P. Reason & H. Bradbury (Eds.). *Handbook of action research: Participative inquiry and practice.* (pp. 70-80). London: Sage.

Gibson, B. (2003). Beyond 'two communities'. In V. Lin & B. Gibson. (Eds.). *Evidence-based health policy: Problems & possibilities.* (pp. 18-30). South Melbourne, Victoria, Australia: Oxford University Press.

Gilchrist, A. (2000). The well-connected community: Networking to the 'edge of chaos'. *Community Development Journal, 35,* 264-275. Retrieved May 21, 2006, from http://cdj.oxfordjournals.org/cgi/reprint/35/3/264

Gilmore, T. N., Hirschhorn, L., & O'Connor, M. (1994). The boundaryless organization. *Healthcare Forum Journal,* July/August, 68-72.

Glaser, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine Publishing Company.

Glaser, B. G. (2002a). Conceptualization: On theory and theorizing using grounded theory. *International Journal of Qualitative Methods, 1*(2). Article 3. Retrieved January 7, 2004, from http://www.ualberta.ca/~iiqm/backissues/1_2Final/pdf/glaser.pdf

Glouberman, S. (2001). *Towards a new perspective on health policy*. Report No. H|03. Ottawa, ON: Canadian Health Policy Research Networks. Retrieved 2001, from http://www.cprn.org

Goering, P., Butterill, D., Jacobson, N., & Sturtevant, D. (2003). Linkage and exchange at the organizational level: A model of collaboration between research and policy. *Journal of Health Services Research & Policy, 8, Suppl 2,* 14-19.

Gray, J. A. Muir. (1997). *Evidence-based healthcare.* London, UK: Churchill Livingstone.

Green, L. W., George, M. A., Daniel, M., Frankish, C. J., Herbert, C. J., Bowie, W. R. et al. (1995). *Study of participatory research in health promotion: Review and recommendations for the development of participatory research in health promotion in Canada*. Vancouver, BC: University of British Columbia, Institute of Health Promotion Research, and BC Consortium for Health Promotion Research, for Royal Society of Canada.

Green, L. W., & Mercer, S. L. (2001). Can public health researchers and agencies reconcile the push from funding bodies and pull from communities? *American Journal of Public Health, 91*, 1926-1929. Retrieved June 28, 2005, from ProQuest database.

Greenwood, D. J., & Levin, M. (1998). *Introduction to action research: Social research for social change*. Thousand Oaks, CA: Sage.

Greenwood, D. J., & Levin, M. (2005). Reform of the social sciences and of universities through action research. In N. K. Denzin & Y. S. Lincoln (Eds.). *The Sage handbook of qualititative research* (3rd ed.). (pp. 43-64). Thousand Oaks, CA: Sage.

Guston, D. H. (2001). Boundary organizations in environmental policy and science: An introduction. *Science, Technology, & Human Values*, *26,* 399-408. Retrieved June 12, 2005, from JSTOR database.

Haynes, P. (2003). *Managing complexity in the public services*. Maidenhead, UK: Open University Press.

Henderson, K. (1991). Flexible sketches and inflexible databases: Visual communication, conscription devices, and boundary objects in design engineering. *Science, Technology, & Human Values, 16*, 448-473. Retrieved June 11, 2005, from JSTOR database.

Heracleous, L. (2004). Boundaries in the study of organization. *Human Relations, 57*(1), 95-103. Retrieved December 14, 2004, from http://hum.sagepub.com/cgi/reprint/57/1/95

Hernes, T. (2003). Enabling and constraining properties of organizational boundaries. In N. Paulsen & T. Hernes (Eds.). *Managing boundaries in organizations: Multiple perspectives.* (pp. 35-54). Houndmills, Basingstoke, Hampshire, UK: Palgrave MacMillan.

Hernes, T. (2004). Studying composite boundaries: A framework of analysis. *Human Relations, 57*(1), 9-29. Retrieved December 15, 2004, from http://hum.sagepub.com/cgi/reprint/57/1/9

Hernes, T., & Paulsen, N. (2003). Introduction: Boundaries and organization. In N. Paulsen & T. Hernes (Eds.). *Managing boundaries in organizations: Multiple perspectives.* (pp. 1-13). Houndmills, Basingstoke, Hampshire, UK: Palgrave MacMillan.

Herr, K., & Anderson, G. L. (2005). *The action research dissertation: A guide for students and faculty.* Thousand Oaks, CA: Sage.

Heywood, I., Cornelius, S., & Carver, S. (1998). *An introduction to geographical information systems*. New York: Pearson Education Inc.

Hildreth, P. M., & Kimble, C. (2002). The duality of knowledge. *Information Research, 8*(1), paper no. 142. Retrieved February 17, 2006, from http://InformationR.net/ir/8-1/paper142.html

Hirschhorn, L., & Gilmore, T. (1992). The new boundaries of the "boundaryless" company. *Harvard Business Review,* 70(3), 104-115. Retrieved December 16, 2004, from EBSCOHost database.

Hock, D. (1996). The chaordic organization: Out of control and into order. Retrieved April 28, 2006, from http://www.newhorizons.org/future/hock.htm

Hughes, T. (2006). *BC Children and Youth Review.* Retrieved April 11, 2006, from http://www.childyouthreview.ca/down/BC_Children_and_Youth_Review_Report_FINAL_April_4.pdf

Huxham, C., & Vangan, S. (2005). *Managing to collaborate: The theory and practice of collaborative advantage.* Abingdon, Oxon, UK: Routledge.

Innes, J. E., & Booher, D. E. (1999a). Metropolitan development as a complex system: A new approach to sustainability. *Economic Development Quarterly, 13,* 141-156. Retrieved November 21, 2001, from EBSCOHost database.

Innes, J. E., & Booher, D. E. (1999b). Consensus building as role playing and bricolage: Toward a theory of collaborative planning. *Journal of the American Planning Association, 65*(1), 9-26. Retrieved November 21, 2001, from EBSCOHost database.

Inter Pares. (2003). The ground we stand on. *Inter Pares Bulletin, 25*(2), 1-4.

Israel, B. A., Schulz, A. J., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health, 19,* 173-202. Retrieved January 9, 2003 from EBSCOHost database.

Israel, B. A., Schulz, A. J., Parker, E. A., Becker, A. B., Allen, A. J. III., & Guzman, J. R. (2003). Critical issues in developing and following community based participatory research principles. In M. Minkler & N. Wallerstein (Eds.). *Community-based participatory research for health.* (pp. 53-76). San Francisco, CA: Jossey-Bass.

Joseph, A. E., & Phillips, D. R. (1984). *Accessibility and utilization: Geographical perspectives on health care delivery*. London, UK: Harper & Row.

Karsten, H., Lyytinen, K., Hurskainen, M., & Koskelainen, T. (2001). Crossing boundaries and conscripting participation: Representing and integrating knowledge in a paper machinery project. *European Journal of Information Systems, 10,* 89-98. Retrieved June 19, 2005, from ProQuest database.

Kauffman, D. L. Jr. (1980). *Systems one: An introduction to systems thinking*. Minneapolis, MN: S.A. Carlton, Publisher.

Kearns, R. A., & Gesler, W. M. (1998). Conclusion. In R. A. Kearns & W. M. Gesler (Eds.). *Putting health into place: Landscape, identity, and well-being* (pp. 289-293). Syracuse, NY: Syracuse University Press.

Kerosuo, H. (2003). Boundaries in health care discussions: An activity theoretical approach to the analysis of boundaries. In N. Paulsen & T. Hernes (Eds.). *Managing boundaries in organizations: Multiple perspectives* (pp. 169-187). Houndmills, Basingstoke, Hampshire, UK: Palgrave MacMillan.

Kirby, M. J. L. (1984). Complexity, democracy, and governance. In *The science and praxis of complexity. The symposium held at Montpellier, France, May 9-11, 1984.* (pp.329-337). Tokyo: The United Nations University.

Kitzinger, J. (1999). Focus groups with users and providers of health care. In C. Pope & N. Mays (Eds.), *Qualitative research in healthcare.* (2nd ed.). n.p. Retrieved October 4, 2002, from http://www.bmjpg.com/qrhc/chapter3.html

Kothari, U. (2001). Power, knowledge and social control in participatory development. In B. Cooke & U. Kothari (Eds.). *Participation: The new tyranny?* (pp. 139-152). London, UK: Zed Books.

Lang, L. (2000). *GIS for health organizations*. Redlands, CA: Environmental Systems Research Institute.

Lavis, J. N., Ross, S. E., Hurley, J. E., Hohenadel, J. M., Stoddart, G. L., Woodward, C. A., et al. (2002). Examining the role of health services research in public policymaking. *The Milbank Quarterly 80,* 125-154.

Lavis, J. N., Robertson, D., Woodside, J. M., McLeod, C. B., & Abelson, J. (2003). How can research organizations more effectively transfer research knowledge to decision makers? *The Milbank Quarterly, 81,* 221-248.

Legard, R., Keegan, J., & Ward, K. (2003). In-depth interviews. In J. Ritchie & J. Lewis (Eds.). *Qualitative research practice: A guide for social science students and researchers.* (pp.138-169). London, UK: Sage.

Lester, J. P. (1993). The utilization of policy analysis by state agency officials. *Knowledge: Creation, Diffusion, Utilization, 14,* n.p. Retrieved January 10, 2003, from EBSCOHost database.

Levina, N., & Vaast, E. (2004). *Understanding boundary-spanning in knowledge work: Implications for IT use.* Unpublished manuscript. Retrieved December 13, 2004, from http://misrc.csom.umn.edu/workshops/2004/spring/natalia.pdf

Lewin, K. (1946). Action research and minority problems. *The Journal of Social Issues, 2*(4), 34-46.

Lincoln, Y. S., & Denzin, N. K. (2000). The seventh moment: Out of the past. In Y. S. Lincoln & N. K. Denzin (Eds.). *Handbook of qualitative research* (2nd ed.). (pp. 1047-1065). Thousand Oaks, CA: Sage.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Lincoln, Y. S., & Guba, E. G. (2000). Paradigmatic controversies, contradictions, and emerging confluences. In N.K. Denzin & Y.S. Lincoln (Eds.). *Handbook of qualitative research* (2nd ed.). (pp. 163-188). Thousand Oaks, CA: Sage.

Lohr, K. N., & Steinwachs, D. M. (2002). Health services research: An evolving definition of the field. *Health Services Research, 37*(1), 7-9. Retrieved September 10, 2002, from http://www.ingenta.com

Lomas, J. (1997). *Improving research dissemination and uptake in the health sector: Beyond the sound of one hand clapping* (Paper C9701). Hamilton, ON: McMaster University Centre for Health Economics and Policy Analysis.

Lomas, J., Culyer, T., McCutcheon, C., McAuley, L., & Law, S. (2005). *Conceptualizing and combining evidence for health system guidance.* Final Report. Retrieved July 15, 2005, from http://www.chsrf.ca/other_documents/pdf/evidence_e.pdf

Marshall, N. (2003). Identity and difference in complex projects: Why boundaries still matter in the "boundaryless" organization. In N. Paulsen & T. Hernes (Eds.). *Managing boundaries in organizations: Multiple perspectives.* (pp. 55-75). Houndmills, Basingstoke, Hampshire, UK: Palgrave MacMillan.

Martin, D., Wrigley, H., Barnett, S., & Roderick, P. (2002). Increasing the sophistication of access measurement in a rural healthcare study. *Health & Place, 8,* 3-13. Retrieved May 2, 2002, from Elsevier database.

Martin, M. (1996). Issues of power in the participatory reearch process. In K. de Koning & M. Martin (Eds.). *Participatory research in health: Issues and experiences.* (pp. 82-93). Johannesburg: National Progressive Primary Health Care Network.

Mason, J. (2002). *Qualitative researching*. (2nd ed.). London, UK: Sage.

Maxwell, J. A. (1996). *Qualitative research design: An interactive approach*. Thousand Oaks, CA: Sage.

McInnes, C. (2002, September 24). Cities play vital role in health care: Expert. *The Vancouver Sun*, p. B6.

Meade, M. S., & Earickson, R. J. (2000). *Medical geography*. (2nd ed.) New York: The Guilford Press.

Meyer, J. (2001). Action research. In N. Fulop, P. Allen, A. Clarke, & N. Black (Eds.). *Studying the organisation and delivery of health services: Research methods* (pp. 172-187). London, UK: Routledge.

Michael Smith Foundation for Health Research. (2005a). *Networks.* Retrieved January 2, 2006, from http://www.msfhr.org/sub-funding-network-networks-child.htm

Michael Smith Foundation for Health Research. (2005b). *Our History.* Retrieved July 23, 2005, from http://www.msfhr.org/printer_friendly.asp

Minkler, M., & Wallerstein, N. (2003). Introduction to community-based participatory research. In M. Minkler & N. Wallerstein (Eds.), *Community-based participatory research for health.* (pp. 3-26). San Francisco, CA: Jossey-Bass.

Morgan, D. L. (1998). Practical strategies for combining qualitative and quantitative methods: Applications to health research. *Qualitative Health Research, 8,* 362-377. Retrieved April 12, 2001, from EBSCOHost database.

Morgan, D. L. (2001). Focus group interviewing. In J. F. Gubrium & J. A. Holstein (Eds.). *Handbook of interview research: Context & method* (pp. 141-159). Thousand Oaks, CA: Sage.

Moyer, A., Coristine, M., MacLean,L., & Meyer, M. (1999). A model for building collective capacity in community-based programs: The elderly in need project. *Public Health Nursing, 16*, 205-214.

Murthy, P. N. (2000). Complex societal problem solving: A possible set of methodological criteria. *Systems Research and Behavioral Science, 17*, 73-101. Retrieved May 21, 2006, from http://www3.interscience.wiley.com/cgi-bin/fulltext/71007416/PDFSTART

National Forum on Health. (1997). *Canada health action: Building on the legacy* . Vol. I. Ottawa, ON: Author.

Nelson, N., & Wright, S. (1995). Participation and power. In N. Nelson & S. Wright (Eds.). *Power and participatory development: Theory and practice.* (pp. 1-18). London, UK: Intermediate Technology Publications.

North West Working Group. (2005). *Integrating child, youth and family services in the North West.* Report of the Forum held in Terrace, November 3, 2005. Terrace, BC: Author.

Northern Health Authority. (2002). *Redesign & budget management plan summary.* Retrieved April 23, 2002, from http://www.healthservices.gov.bc.ca/socsec/contacts.html

Northern Health Authority. (2003a). *Health service redesign and budget management plan: 2003-04 to 2005-06.* Prince George, BC: Author. Retrieved March 14, 2005, from http://northernhealth.ca/context/articlefiles/938-2003-2004_Redesign_Plan.pdf

Northern Health Authority. (2003b). *Aboriginal health services plan: 2002 – 2005*. Prince George, BC: Author.

Northern Health. (2006). *About Northern Health.* Retrieved January 2, 2006, from http://www.northernhealth.ca/nha/about/

O'Fallon, L. R., Tyson, F. L., & Dearry, A. (2000). *Successful models of community-based participatory research.* Washington, DC: National Institutes of Health. Retrieved December 11, 2002, from http://www.niehs.nih.gov/translat/cbr-final.pdf

Oh, C. H. (1997). Issues for the new thinking of knowledge utilization: Introductory remarks. *Knowledge & Policy, 10,* n.p. Retrieved January 16, 2003, from EBSCOHost database.

Pang, T., Sadana, R., Hanney, S., Bhutta, Z. A., Hyder, A. A., & Simon, J. (2003). Knowledge for better health: A conceptual framework and foundation for health research systems. *Bulletin of the World Health Organization, 81,* 815-820. Retrieved December 2, 2003, from http://www.who.int/bulletin/volumes/81/11/en/pangwa1103.pdf

Patton, M. Q. (2002). *Qualtitative research & evaluation methods*. (3rd ed.). Thousand Oaks, CA: Sage.

Phelps, R., & Hase, S. (2002). Complexity and action research: Exploring the theoretical and methodological connections. *Educational Action Research, 10,* 507-523.

Plsek, P. E., & Greenhalgh, T. (2001). The challenge of complexity in health care. *British Medical Journal, 323,* n.p. Retrieved January 24, 2002, from Infotrac database.

Reason, P. (1980). New approaches to research for systems theory and organization development. In T. G. Cummings (Ed.), *Systems theory for organization development.* (pp. 35-59). Chichester, UK: John Wiley & Sons.

Richards, T. B., Croner, C. M., Rushton, G., Brown, C. K., & Fowler, L. (1999). Geographic information systems and public health: Mapping the future. *Public Health Reports, 114,* 359-373. Retrieved May 9, 2002, from http://phr.oupjournals.org/search.dtl

Ricketts, T. C., Savitz, L. A., Gesler, W. M., & Osborne, D. N. (Eds.). (1994). *Geographic methods for health services research: A focus on the rural-urban continuum*. Lanham, MD: University Press of America.

Roberts, C. M. (2004). *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation.* Thousand Oaks, CA: Corwin Press.

Robson, C. (2002). *Real world research: A resource for social scientists and practitioner-researchers* (2nd ed.). Oxford, UK: Blackwell.

Rocheleau, D., & Slocum, R. (1995). Participation in context: Key questions. In R. Slocum, L. Wichart, D. Rocheleau, & B. Thomas-Slayter (Eds.). *Power, process and participation: Tools for change.* (pp.17-30). London, UK: Intermediate Technology Publications.

Rodriguez, C., Langley, A., Béland, F., & Denis, J.-L. (2003). Managing across boundaries in health care: The forces for change and inertia. In N. Paulsen & T. Hernes. (Eds.). *Managing boundaries in organizations: Multiple perspectives* (pp. 147-168). Houndmills, Basingstoke, Hampshire, UK: Palgrave MacMillan.

Rosenfield, P. L. (1992). The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. *Social Science & Medicine, 35,* 1343-1357.

Ross, S., Lavis, J., Rodriguez, C., Woodside, J., & Denis, J-L. (2003). Partnership experiences: Involving decision-makers in the research process. *Journal of Health Services Research & Policy, 8, Suppl 2,* 26-34.

Santos F. M., & Eisenhardt, K. M. (2005). Organizational boundaries and theories of organization. *Organization Science,16,* 491-508. Retrieved February 15, 2006, from http://www.extenza-eps.com/INF/doi/pdf/10.1287/orsc.1050.0152

Saunders, L. D., & Wanke, M. (1996). Toward a framework for health service research. *Healthcare Management Forum,* 9(1), 28-34.

Schwandt, T. A. (2001). *Dictionary of qualitative inquiry.* (2nd ed.). Thousand Oaks, CA: Sage.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.

Smith, S. (1997). Deepening participatory action-research. In S. E. Smith & D. G. Willms, with N. A. Johnson (Eds.). *Nurtured by knowledge: Learning to do participatory action-research.* (pp. 173-263). New York: The Apex Press.

Snape, D., & Spencer, L. (2003). The foundations of qualitative research. In J. Ritchie & J. Lewis (Eds.). *Qualitative research practice: A guide for social science students and researchers.* (pp. 1-23). London, UK: Sage.

Stacey, R. D. (1992). *Managing the unknowable: Strategic boundaries between order and chaos in organizations*. New York: Jossey-Bass.

Star, S. L. (1989). The structure of ill-stuctured solutions: Boundary objects and heterogeneous distributed problem solving. In L. Gasser & M. Huhns (Eds.), *Distributed artificial intelligence, volume II.* (pp. 37-54). San Mateo, CA: Morgan Kaufmann Publishers.

Star, S. L., & Griesemer, J. R. (1989). Institutional ecology, 'translations' and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science, 19,* 387-420. Retrieved December 13, 2004, from JSTOR database.

Starhawk. (1987). *Truth or dare: Encounters with power, authority, and mystery.* New York: Harper & Row.

Strayer, D. L., Power, M. E., Fagan, W. F., Pickett, S. T. A., & Belnap, J. (2003). A classification of ecological boundaries. *Bioscience, 53,* n.p. Retrieved September 6, 2004, from EBSCOHost database.

Susman, G. I., & Evered, R. D. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly, 23,* 582-603. Retrieved November 27, 2002, from JSTOR database.

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

Taylor, S. J., & Bogden, R. (1998). *Introduction to qualitative research methods: A guidebook and resource.* (3rd ed.). New York: John Wiley & Sons.

Teddlie, C., & Tashakkori, A. (2003). Major issues and controversies in the use of mixed methods in the social and behavioral sciences. In A. Tashakkori & C. Teddlie (Eds.). *Handbook of mixed methods in social & behavioral research* (pp. 3-50). Thousand Oaks, CA: Sage.

Toulmin, S. (1996). Concluding methodological reflections: Elitism and democracy among the sciences. In S. Toulmin & B. Gustavsen (Eds.). *Beyond theory: Changing organizations through participation.* (pp. 203-225). Amsterdam: John Benjamins.

United States. Department of Health and Human Services. (2003). *Creating partnerships, improving health: The role of community-based participatory research.* Retrieved December 8, 2005, from http://www.ahrq.gov/research/cbprrole.pdf

Van Manen, M. (2001). Transdisciplinarity and the new production of knowledge. *Qualitative Health Research, 11,* 850-852. Retrieved February 21, 2005, from http://qhr.sagepub.com/cgi/reprint/11/6/850

Veazie, M., Teufel-Shone, N., Silverman, G., Connolly, A., Warne, S., King, B., et al. (2001). Building community capacity in public health: The role of action oriented partnerships. *Journal of Public Health Management Practice, 7*(2), 21-32.

Viswanathan, M., Ammerman, A., Eng E., Gartlehner, G., Lohr, K. N., Griffith, D., et al. (2004). *Community-based participatory research: Assessing the evidence.* Evidence Report/Technology Assessment No. 99 (Prepared by RTI – University of North Carolina Evidence-based Practice Center under Contract No. 290-02-0016). AHRQ Publication 04-E022-2. Rockville, MD: Agency for Healthcare Research and Quality. July 2004.

Volk, T. (1995). *Metapatterns: Across space, time, and mind*. New York: Columbia University Press.

Wallerstein, N. (1999). Power between evaluator and community: Research relationships within New Mexico's healthier communities. *Social Science & Medicine, 49,* 39-53. Retrieved January 14, 2003, from http://scholarsportal.info/pdflinks/03001416511723387.pdf

Wallerstein, N., & Duran, B. (2003). The conceptual, historical, and practice roots of community based participatory research and related participatory traditions. In M. Minkler & N. Wallerstein (Eds.). *Community based participatory research for health* (pp. 27-52). San Francisco, CA: Jossey-Bass.

Walshe, K., & Rundall, T. G. (2001). Evidence-based management: From theory to practice in health care. *The Milbank Quarterly, 79,* 429-457. Retrieved October 23, 2002, from Ingenta database.

Waterman, H., Tillen, D., Dickson, R., & de Koning, K. (2001). Action research: A systematic review and guidance for assessment. *Health Technology Assessment, 5*(23). Retrieved November 27, 2002, from http://www.ncchta.org/fullmono/mon523.pdf

Weisbord, M., & Janoff, S. (2000). *Future search: An action guide to finding common ground in organizations and communities*. (2nd ed.) San Francisco, CA: Berrett-Koehler.

Weiss, C. H. (1980). Knowledge creep and decision accretion. *Knowledge: Creation, Diffusion, Utilization, 1,* 381-404.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press.

Wheatley, M. (1999). *Leadership and the new science: Discovering order in a chaotic world*. (2nd ed.). San Francisco, CA: Berrett-Koehler.

Wheatley, M. J. & Kellner-Rogers, M. (1996). *A simpler way*. San Francisco, CA: Berrett-Koehler.

White, C., Woodfield, K., & Ritchie, J. (2003). Reporting and presenting qualitative data. In J. Ritchie & J. Lewis (Eds.). *Qualitative research practice: A guide for social science students and researchers.* (pp. 287-320). London, UK: Sage.

Wilson, E. O. (1998). Back from chaos. *The Atlantic Monthly*. March, 41-62.

Zakus, J. D., & Lysack, C. L. (1998). Revisiting community participation. *Health Policy and Planning,* 13(1), 1-12. Retrieved April 5, 2002, from http://heapol.oupjournals.org/content/vol13/issue1/

Zimmerman, B., Lindberg, C., & Plsek, P. (1998). *Edgeware: Insights from complexity science for health care leaders*. Irving, TX: VHA Inc.

# Appendices