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Partnerships for Health System Improvement (PHSI)/Partenariats pour l'amélioration du système de santé (PASS)
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Summary of Research Proposal/Résumé de la proposition de recherche

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Purpose. The purpose of this initiative is to develop leadership capacity in the Canadian health system through applied research and knowledge translation. The applicant team will accomplish this by bringing together two nascent networks representing decision-makers from across Canada (under the auspices of the Canadian Health Leadership Network [CHLNet]) and the health research community (led by Royal Roads University [RRU]) in a unique collaborative partnership – a *network of networks*.

Objectives. Specific objectives are to: create an evidence-base of the qualities that leaders use to address critical health challenges successfully; translate existing and new knowledge of effective leadership in different organizational contexts into improved leadership development approaches; explore effective means to develop and sustain leaders at all stages of their career; and develop national standards for leadership.

Background/Context/Importance. This proposal is built on a foundation of researcher and decision- maker collaboration that has been growing over the past three years across Canada: e.g., Leaders for Life in BC, and CHLNet. These coalitions emerged to ensure leadership exists to respond to tightening budgets and the ever-increasing demands for transformation of health care in Canada (e.g., primary care; care for the elderly; information technology; chronic disease management; service delivery realignment). At the core of the transformation challenge is demand for new and modern conceptions of leadership. This proposal is tied closely to CIHR priority theme areas under the umbrella of building capacity: *change and change management*, the *health care workforce* and *the health work environment*. It seeks to address issues pointing to a looming leadership crisis: aging of the leadership cohort; burnout; lack of succession planning, mentoring and training; and reluctance of individuals to take on the responsibilities of leadership (CCHSE 2009).

The Proposal. The network will: 1) develop and conduct applied, qualitative research that will bring researchers and decision-makers together to examine a suite of 'naturally occurring experiments' involving leadership in action; 2) build an integrated regional and national knowledge translation and knowledge mobilization (KT/KM) strategy that distills the knowledge from the case studies and translates it into practice; and 3) develop a sustainable network of networksthat will last well beyond the PHSI funding envelope and timeframe.

Research questions. Three overarching research questions guide this study: 1) What is the current state of health leadership capacity in Canada?: What is working, or not working, in terms of stimulating and supporting health system transformation, and what contextual factors influence effective leadership action?; 2) Where are the gaps between current practices, the evidentiary base in the literature, and the expectations for leadership outlined in the emerging health leadership capability/competency frameworks (e.g., LEADS), and how might a set of national standards for leadership be structured?; and 3) How can knowledge of effective leadership be translated and mobilized by the network into approaches, programs, tools and techniques to develop a culture of effective leadership in Canada, and enhance the development of quality health leaders?

Knowledge translation and mobilization at work. In addition to the traditional KT approaches—e.g., reports, publications, conference presentations, the network will also build an online community to support the network and research, conduct yearly evidence-briefs to present the research evidence gathered on leadership, convene node level workshops in the final year with case study stakeholders, and convene a national deliberative dialogue at the end of Year 3 to bring key audiences together to learn from this project.

Developing a sustainable network of networks. A key component is bringing together decision-makers, researchers, and knowledge translators to ensure that the group's work is applicable to the leadership development needs at all levels of the health care system and is sustainable over the long term.

Workplan and Budget: The work plan will consist of multiple comparative case studies of naturally occurring experiments in health care reform conducted over three years at the micro, meso, and macro levels of the health system in five nodes across the country and a national hub. The cash budget is $453,000 ($350,000 from CIHR; $100,000 from Michael Smith Health Research Foundation, $3,000 from RRU) and $364,500 in-kind contributions.

Purpose. The purpose of this initiative is to develop leadership capacity in the Canadian health system through applied research and knowledge translation. The applicant team will accomplish this by bringing together two nascent networks representing decision-makers from across Canada (under the auspices of the Canadian Health Leadership Network [CHLNet]) and the health research community (led by Royal Roads University [RRU]) in a unique collaborative partnership – a *network of networks*. This network of networks will be dedicated to accessing, appraising and applying existing evidence (Hayward 2007; Lavis 2005), and conducting applied research to discover new evidence in support of leadership in the Canadian health system. Leadership means "the capacity to influence others to work together to achieve a constructive purpose" (Dickson 2008:155). This is crucial to meaningful and significant reform of the Canadian health system (Caldwell et al 2008; CHLNet 2009; Leaders for Life 2009; Lewis 2007; Romanow 2007). It is the responsibility of leaders to create healthy workplaces where employees are meaningfully engaged, to implement process redesign based on evidence and knowledge, to 'scale up' small changes into large system changes when evidence validates their successes, and to ensure appropriate accountability exists to ensure results are achieved (Cohen et al 2008; Begin et al 2009).

Objectives. The network will study effective leadership practices in different contexts, and compare them to emerging frameworks for best practices in leadership in the health system (Dickson et al 2007; Dickson 2008). Some of these frameworks have recently merged into one, the LEADS in a Caring Environment, endorsed by CHLNet (2009) and the Canadian College of Health Service Executives (CCHSE 2009). LEADS identifies five capabilities of effective leadership and itself represents an approach to carrying out transformation of health service delivery. The five capabilities are: Leads self; Engages others; Achieves results; Develops coalitions; and Systems transformation. In addition there are four sub-domains within each of these five domains. (See Appendix 1 for a detailed description.)

The network will bring together, at a regional and national level, researchers, knowledge translators and decision-makers who wish to develop, exchange, and use knowledge regarding best leadership practices for health system improvement. Researchers and decision-makers will identify 'naturally occurring experiments' across Canada. The key areas of focus will be determined by the network's five regional jurisdictions (network nodes) stewarded by a national overarching network. Based on decision-maker input to date, anticipated areas of focus will include: chronic disease management, implementation of a quality improvement and safety culture, and care of the elderly. The leadership employed in these priority areas will be examined *in situ* at the micro (unit), meso (organizational, program delivery), and macro (health authority, provincial/territorial) levels of service delivery. Specific objectives are to:

- create an evidence-base of the qualities that leaders use to address critical health challenges successfully;
- translate existing knowledge of what comprises effective leadership in different organizational contexts into improved leadership development approaches;
- explore effective means to develop and sustain leaders at all stages of their career; and
- develop a set of national standards for leadership.

Background and Context. At a time when the health system is challenged by ever-tightening budgets, the ability to provide effective leadership is emerging as a critical success factor for the sustainability of the health system across Canada (Dickson & Tholl 2009; Tholl et al 2006; White & Nanan 2009). In response to this growing challenge, health ministries, health authority/hospital CEOs, and senior leaders of health professional associations across Canada have initiated collaborative strategies to build evidence-informed leadership capacity within the health system (CHLNet 2009; Leaders for Life 2009; Ontario Hospital Association 2009). As part of this process, key decision-makers have created sustainable partnerships with the research community to create and apply research evidence to inform these strategies (Canadian Health Services Research Foundation [CHSRF], 2009, Centre for Health Leadership and Research [CHLR] 2008, Leaders for Life 2009). Based on those experiences, developers of this proposal envision that leadership development in Canada should move toward more sophisticated approaches as found in the US and UK, but adapted for a Canadian context.

CHLNet is a coalition of national and provincial organizations dedicated to growing and enhancing leadership capacity in their organizations and across Canada. It includes: CCHSE, Canadian Medical Association (CMA), Canadian Nurses Association (CNA), Canadian Association of Canadian Academic Health Organizations (ACAHO), Canadian Healthcare Association (CHA), Canadian Society of Physician Executives (CSPE), Accreditation Canada, Canadian Agency for Drugs and Technologies in Health, Emerging Health Leaders (EHL), Canadian Patient Safety Institute (CPSI), Academy of Canadian Executive Nurses (ACEN), and Health Care Leaders Association of BC (HCLABC). CHLNet (2009) is committed to assisting in addressing the pan-Canadian challenges with respect to "identifying, developing, supporting and celebrating" (n.p.) excellence in leadership throughout the health system, and has done some initial work in this area (Snell et al 2009). Participation of key members as co-applicant decision-makers and collaborators for this PHSI application formalizes the intention of these stakeholders to liaise regularly and systematically with the research community to grow the collective understanding and practice of quality leadership.

The CHLR at RRU was established in 2006 to respond to significant demand from decision-makers in BC and national health organizations for applied research in the field of health leadership and systems transformation. Its work has included: designing strategies to support health systems transformation in the fields of public health and primary care; determining the feasibility for a common national model of effective health leadership and what it might look like; and developing the LEADS framework as well as organization-specific leadership competency frameworks for CCHSE and CMA. This work has led to CHLR being recognized by the proposal partners for its leadership in designing applied research and knowledge translation with decision-makers across the country.

Importance of this proposal. Advancing leadership research and translating knowledge of effective health leadership is well-connected to CIHR's priority areas. Collaboration in leadership, including shared resolve and belief, is a crucial element affecting readiness for *change and change management* in health (Weiner 2009). The ability of this unique partnership to contribute in these areas will have direct implications for health system improvement. Indeed, it is increasingly understood that the application of the discipline of leadership is the driving force that is needed to provide coherence and integration in organizations and systems through evidence-informed policy formulation, strategic thinking, and sustainable system-wide change management (Begin 2009; Lewis 2007). The quality of leadership also has a very broad impact on the *healthcare workforce* and on the *health work environment* as identified in, for example, Listening for Direction III (Law, Flood, & Gagnon 2008). This project is therefore closely tied to these theme areas.

Many experts in health system transformation have stated that Canada appears resistant to large-scale change in its health service delivery systems. Many agree that the reason is a lack of leadership in the system (Ward 2008; Lewis 2007; Romanow 2007). A number of decision-makers in the system, e.g., hospital and regional Chief Executive Officers (CEOs), and national association leaders, also feel that traditional models and approaches to leadership are not generating energy for meaningful transformation, stymieing important initiatives such as primary care reform to deal with chronic disease management, health human resources issues, and implementing system redesign to support quality improvement and safety (CCHSE 2008, 2009; HCLABC Annual Conference 2009; Lockhart & Backman 2009).

Demands for more effective leadership are also fuelled by a shift in national and international expectations around the quality of leadership needed for transformation in the health system (Dickson & Tholl 2009; Lindstrom 2009; Sept 2009). Leaders, and their successors, are expected to navigate increasingly complex policy environments, adapt to the changing expectations of society, and adjust their behaviours to correspond to increasingly large organizational delivery systems (Ford 2009). Leadership to create change operates in different health system contexts (Ford 2009; Weiner 2009). For the purpose of this proposal, context is defined in terms of different levels comprising the health system – global, national, provincial, regional, community, organizational, and service delivery unit. In each context, formal and informal leaders are engaged in seeking change, and individual leaders are often actors in one context more than another.

In this environment, CCHSE (2009) has observed that

[i]ssues relating to aging of the leadership cohort, burnout, lack of succession planning and

> appropriate training, mentoring the next generation of leaders, and difficulty in persuading up and coming leaders and managers to take on more demanding roles in an ever-changing, increasingly complex health care environment are all worrisome signs that a leadership crisis is looming if not already here (n.p.).

Further, the health system and its myriad of sub-systems are expected, through various reform initiatives, to respond to meta-value demands for efficiency, effectiveness, sustainability, and universal access (Hodgkinson 1983; Canada Health Act 2002; Lockhart & Backman 2009). Another issue is the structure and culture of health service delivery organizations, i.e., the conditions and circumstances that establish the playing field for leadership. For example, how effective can a leader/manager be with a span of control of 100-300 direct reports (Coumont 2008; Startup 2008) as is often the case in large health authorities across the country?

Literature review and previous work: The demand for health system leadership in Canada. Health sector CEOs agree with the need to pay more attention to leadership development. In April 2008, 150 CEOs from across Canada's health system attended an executive forum focused on *transformational leadership in health care* – devoted to learning strategies for, and examples of how to lead in, meaningful change in service delivery at the unit, organization or provincial levels (CCHSE 2008). A year later, a second group of executives attended a session on *System Sustainability through Innovation* (CCHSE 2009). Participants suggested that the Canadian health system has to make major changes, and that old models of leadership will not create the changes needed. What is required is a more fluid, organic approach to change with a commitment to learning how to engage people in order for them to make sense of the change in the context of their own work (Dickson & Tholl 2009). Yet, based on a recent study commissioned by CHLNet, the health sector under-invests in leadership development and professional training by approximately 50% relative to best practices in the for-profit sector (Conference Board of Canada 2007).

The expectation of a major transformation of the Canadian health system is another driving force for a focus on leadership development. Negative press abounds, including complaints about lengthy wait lists, stories of botched care or a neglected patient, and concerns regarding the future financing of the system as the population ages and demands for services increase, threatening to outstrip the government's capacity to pay for them. Leaders are under pressure to 'change' the system. Significant changes are contemplated in health care delivery, including quality improvement and safety initiatives, clinical and operational redesign, privatization, and funding redesign (Porter 2009), and in the stewardship of regions that have moved from 'corner stores to conglomerates' (Rowlands 2009). These changes, if implemented, will collectively create a system very different to what we know today.

Canada is not alone in focusing on leadership to support health system reform. Other jurisdictions are contemplating major change and concomitantly offering leadership solutions. Sweden has implemented system-wide changes in service delivery through contracting out, and has developed coherent policies for innovation across the state, county, and municipal governance systems (Dickson & Philippon 2009). Similarly, the Obama administration is pursuing an agenda of national health system reform, and the Institute for Health Improvement (IHI) is offering numerous programs on leadership to support change (IHI 2009). In the UK, a national reform agenda has been ongoing for 10 years, and the National Health Service established the Institute for Innovation and Improvement to stimulate leadership development in the context of change (Clark 2008).

Canada is remarkably resistant to large scale change (Lewis 2007; Ward 2007). One of the reasons might be the collective (mis)conceptions about health system leadership in Canada, the lack of focus it receives and, therefore, a paucity of leadership action (Ford 2009; CHLNet 2009). "The challenge in achieving better performance necessarily must lie in improving leadership, priority setting, decision making, and management at all levels" (White & Nanan 2009:148). To enhance the potential to meet the transformation challenge anticipated in the health system a transformation in *leadership* is needed: a demand for new and modern conceptions, commensurate with changing societal dynamics and values (Dickson et al 2007; Leatt & Porter 2004; Leeb et al 2005). This underscores the need to explore the distinguishing features

of new approaches to leadership that define it differently from earlier conceptions related to the discipline of administration and management, one which conceptualizes leadership in a modern health context (Bennis 2003; Braithewaite 2008; Dickson et al 2007; Dunoon 2008; Kotter 2000). Another key consideration is how effective leadership training and development can be provided (Baker & Sibbald 2002; Dickson & Hamilton 2006), and how leadership can be operationalized in the unique organizational and governmental systems that steward health service delivery in Canada.

But how can leadership improve, if there is not a collective understanding of what it is? Drath (2008) makes the point that "…only thoughts, words and actions that are recognized as leadership can constitute leadership" (6). Therefore, dialogue aimed at collective understandings about what leadership looks like, feels like, and acts like, is fundamentally important to making leadership meaningful to people. This is also why innovative approaches such as applied research to observe leadership in action, and knowledge translation activities such as 'deliberative dialogues' to share the results of that research, can contribute to our collective understanding of effective leadership (CPRN 2009; Lavis 2006). This proposal outlines how the two approaches can work together across Canada.

The focus of this project is supported by the work of Avolio, Walumba, and Weber (2009) who have examined recent theoretical and empirical developments in the leadership literature. The article suggests that concepts of leadership take many forms. They conclude by stating that "the time has never been better to examine the genuine development of leadership" (441-2). Avolio, Walumba, and Weber (2009) note the rise of 'complexity leadership', where leadership is an emergent phenomenon within complex systems, in response to the circumstance that "…models of leadership that were designed for the past century may not fully capture the leadership dynamic of organizations operating in today's knowledge-driven economy" (430). If one takes the view that health is a complex adaptive system (Glouberman & Zimmerman 2004; Plsek & Greenhalgh 2001), then leadership can be defined only in time-specific contexts, and in terms of the qualities and attributes that fit that context. In this view, leadership is constantly transforming in its ideal expression, and studies undertaken simply reveal a snapshot of ideal leadership at that moment in its transformation.

This view suggests that health system leadership is an evolving phenomenon and that it is becoming real to practitioners through discussion, debate, and dialogue. Indeed, if such efforts are conducted as part of the process of health systems transformation itself, then leaders can become aware of their own leadership actions and how they are contributing (or not) to effective change. This underscores the fundamental importance of undertaking on-going applied leadership research (i.e., leadership in context) and the substantive knowledge translation strategies to generate meaningful understanding of that work, so as to inform improved leadership development solutions (Boaden 2006).

Dickson and Tholl (2009) outline the challenges for health leaders in Canada, which this project will address. One challenge is denoted by the frustration among Canadian health leaders who feel constrained and fettered from acting as they know they should, but also recognize that it is their own responsibility to take the initiative needed to convert *leadership inaction* to *leadership in action*. A second challenge is the need to learn and unlearn (Argyris 1999) what 'leadership in action' looks like in a modern, knowledge and technology-driven society (Bontis 2009). A third challenge is the articulation of the key differences between how leadership has been practiced and how it will need to be practiced in the future, i.e., how it will transform to adapt to a knowledge and technology-driven society. A summary of key ideas pertaining to that transformation is presented in Appendix 2.

A review of the literature concerning these challenges as the health system moves between past and future states suggests three main conclusions. First, when one compares the attributes of leadership needed in a knowledge-laden and technology-driven society to the LEADS framework there is significant resonance of expectations. LEADS represents the more holistic view of leadership in health as anticipated by Avolio, Walumba and Weber (2009), and also represents a distributed leadership approach (Bennett et al 2003; Dickson 2008) in which responsibility for leadership is dispersed throughout an organization or system. Leadership is not perceived solely as the dynamic between individual leader and follower, but as a force operative on an interpersonal, unit, organizational and systems level; and, it takes expression as a function of

complexity of context (i.e., number of interdependent variables influencing its action), individual and group psychology, individual cognition, tools available to it (e.g., technology), and culture (ethnicity; unit of analysis - province, organization, country; and customs, traditions and precedents implicit in context).

A second conclusion is that leadership is a much more complex and situationally-specific concept than management or administration. It is what Max-Neef (2005) describes as the ultimate trans-discipline; that is, it operates at the intersection of science, values and beliefs, functioning in unique contexts, and faced with the responsibility of often reconciling irreconcilables (Martin 2007). Hodgkinson (1983) describes leadership as philosophy in action. As societal values and beliefs change, as science changes, and as our system and global consciousness expands, so do our conceptions and practices of leadership.

A third conclusion is that if one accepts the premise that leadership is transforming in resonance with changes in the context in which it is operating (in this case the Canadian health system), then ongoing leadership development (learning and unlearning) is both a precursor to, and an enabler of, effective change. The design of leadership development interventions must ensure that they enable development of the unique attributes of leadership itself, such as stimulating organic, transformative change approaches with a focus on collaborative approaches to execution, and fostering a reliance on internal character, ethics, and creativity to respond to constantly changing circumstances (see Appendix 2). Traditional models of management development, or training models, will not suffice (Braithewaite 2008). Indeed, such models are antithetical to effective leadership development, as they provide environments for learning that are predictable, organized, and finite. Other models need to be investigated further, such as pilot programs developed for: HCLABC Leaders for Life, RRU Master of Arts in Leadership, Dorothy Wylie Leadership in Ontario, and the CMA's Physician Management Institute.

The research project. In order to address the challenges and bridge the gaps outlined above, the applicant team has defined three areas of work for the proposed network of networks, developed through a collaborative process made possible by CIHR-MPD funding. They are: (1) developing and conducting an applied research design that uses 'naturally occurring experiments' to examine leadership in action; (2) building an integrated regional and national knowledge translation and knowledge mobilization (KT/KM) strategy that will bring researchers and decision-makers together to learn about, understand and address the key issues in different contexts and influence the content of leadership development programming; and (3) developing a sustainable network of networks that will last beyond the PHSI funding envelope and timeframe.

Activity 1: Applied research design.

(a) Theoretical framework. A number of different epistemological perspectives can be brought to the creation of a research method aimed at discovering knowledge. Lincoln and Guba (2000), Cohen et al (2000), and many others identify two epistemological paradigms for making sense of the world: normative and interpretive. The normative paradigm suggests that human behaviour is rule-bound and best investigated by methods of natural science. This is appropriate to most research done in clinical dimensions of the health system. On the other hand, "[t]he interpretive paradigm seeks 'to understand the subjective nature of human experience' through understanding people's points of view" (Thornton 2009:63). The interpretive paradigm fits better with this study, as leadership is a context driven, dynamic process that is best understood rather than scientifically determined. Studies based on the interpretive approach increase the understanding of phenomena in natural settings and allow research participants to draw on their own experiences and describe their own reality (Orlikowski & Baroudi in Thornton 2009). This subjective/ objective continuum is an historical debate not just confined to these authors, but is much broader in scope (Burrell & Morgan 1979). The interpretive paradigm is consistent with an emphasis on applied research and application to real-world settings.

In addition, the study will use a theoretical perspective that combines complexity theory, specifically complex adaptive systems (CAS) theory, along with a traditional scientific approach to defining and interpreting the various contexts in which leadership dynamics emerge. CAS theory will help develop a

collective understanding of the macro contexts for change, given the growing realization in the literature that the health system in its larger contexts acts as a CAS. If, for example, 'scaling change' is an issue for leaders, then understanding the dynamics of such contexts is vitally important to effective leadership. Characteristics of a CAS include complexity, interdependence, unpredictability, emergence, self-organization, non-linearity, adaptability, dynamic interactions, openness to the environment, and functioning far from equilibrium (see e.g., Ramirez, et al 2008; Cilliers 1998; Murthy 2000; Zimmerman, Lindberg, & Plsek 1998). The ability to lead and manage health system change, with its multiplicity of relationships, is critically dependent on our conceptualization and application of this theoretical lens (see e.g., Anderson & McDaniel 2000; Begun, Zimmerman, & Dooley 2003; Glouberman 2001; Lindstrom 2003, 2009; Plsek & Greenhalgh 2001; Zimmerman, Lindberg, & Plsek 1998). Concomitantly, at the micro-system level, the health system can also be seen as mechanistic in its operational design (Zimmerman, Lindberg, & Plsek 1998). Understanding the dynamics of leading change in more simple systems (e.g., micro contexts such as on a ward or in a physician's office) requires application of knowledge from more traditional management and organizational development literature (Iles & Sutherland 2001; Kotter 2007). Yet conducting research at the micro level will require connecting that knowledge into the complex frame. Consequently, there is a pressing need for researchers from both theoretical disciplines to be more collaborative and integrative in their approaches to tackle real-world problems.

(b) Research questions. Three overarching research questions will guide this study:

- What is the current state of health leadership capacity in Canada? What is working, or not working, in terms of stimulating and supporting health system transformation, and what contextual factors influence effective leadership action?
- Where are the gaps between current practices, the evidentiary base in the literature, and the expectations for leadership outlined in the emerging health leadership capability/competency frameworks (e.g., LEADS), and how might a set of national standards for leadership be structured?
- How can knowledge of effective leadership be translated and mobilized by the network into approaches, programs, tools and techniques to develop a culture of effective leadership in Canada, and enhance the development of quality health leaders?

(c) Research methods. The approach to this study is qualitative, defined as "[a]n inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The research builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting" (Cresswell 1998:15).

This project will use a multiple comparative case study method (Yin 2009), with three case studies (one at each of the micro, meso and macro levels of the health system) in each of the five regional nodes (BC, Prairies, Ontario, Quebec, Maritimes) and a national node, for a total of 18 case studies. Case study research involves the in-depth study of a bounded system using multiple data collection methods over a period of time (Cresswell 1998). This approach is necessary because the academic and decision-making team (including knowledge translators) will jointly "…define the problems to be examined, cogenerate relevant knowledge about them, learn and execute social research techniques, take actions, and interpret the results of actions based on what they have learned" (Greenwood & Levin 1998:4).

Participatory methods in the form of participatory action research (PAR) will be the primary methodology to investigate the case studies. PAR includes three basic elements – participation, research, and action (Greenwood & Levin 1998; Wallerstein & Duran 2003) – and is a qualitative approach that suits this investigation. PAR creates action over knowledge generation, expands knowledge beyond the walls of academia, and advances a broader participatory perspective (Bradbury & Reason 2008). PAR is characteristically top-down and bottom-up; focuses on locally defined perspectives (e.g., that of leaders); shares power amongst the participants; and, realigns the researcher's role in the research process from directing to facilitating (Cornwall & Jewkes 1995). PAR is also a process of knowledge translation between researchers and decision-makers occurring in real-time, i.e., while the research is going on. In this study, the applicant team will engage with decision-makers in each node of the network to suggest cases that can be used to examine leadership dynamics implicit in creating and supporting change, to participate in data

collection, data analysis, and findings development, and to assist in making sense of the multiple interpretations of phenomena captured in the data (Altrichter, et al 2006; MacDonald et al 2009). This approach is essential to support a CAS approach through a construct that embraces knowledge derived from the more traditional scientific fields of management. Figure 1 in Appendix 3 shows how the two approaches work together in the research process. The results will inform a strategy for KT, one that values diverse epistemologies and embraces transdisciplinarity (Bammer 2005; Max-Neef 2005). As well, Klein and Myers' (1999) set of seven principles for interpretive field research will help the applicant team ensure the integrity of the study.

To operationalize this research process, the national and regional node representatives (i.e. the respective leads for applied research, knowledge translation and decision-making) will meet to finalize the research questions outlined above and agree on a common framework that will guide the overall study and the conduct of the applied research cases in each regional jurisdiction (e.g., appropriate data gathering methods, analysis approaches, and ethical considerations). This three-pronged approach will bring evidence to bear on the PAR throughout its progression in order to adapt to emergent circumstance, and to ensure integration of KT/KM as part of the process of leadership growth. Each of the regional nodes will identify naturally occurring experiments where change is happening in three case contexts (micro, e.g., a hospital department; meso, e.g, service delivery program in a community; macro, e.g., redesign of service delivery at the regional scale). Case selection criteria will be determined in collaboration with the regional team and will take into account such issues as: stage in the change process, geographical considerations (urban/rural balance), demographic considerations, and maximizing learning from a case (Patton 2002). Units of analysis (individuals, groups, an organization or project) will be defined by the participant researcher teams in each chosen site. National and regional network leaders will jointly determine a process to assess what leadership attributes are at work, observe the interaction between leadership and context, and how to document what appears to work, or not work, in terms of generating change.

(d) Data gathering and analysis. Once case study sites have been determined, a regimen for systematic data collection and analysis will be employed. Data gathering and analysis in qualitative research are not separate processes, as both are spread throughout the duration of the process (Huberman & Miles 1998).

Case study data collection will involve semi-structured interviews and focus groups. It is estimated that each case will involve 8-15 interviews, averaging 30 per node and 180 in total, across the five regional and one national node. Criteria for participant selection will be standardized across the nodes; node leaders will jointly determine an appropriate set of interviewees per case study based on these criteria. A basic interview protocol will be jointly developed by the research network team across the nodes but will be customized per case as advised by decision-makers. The interviews will be semi-structured, allowing interviewees to contribute additional information; they will be of one hour duration. Data will be triangulated with the addition of focus groups, at least one per case study, of two-hour duration. Interviews and focus groups will be recorded and transcribed. Data analysis will involve content analysis, looking for similarities, differences, and general patterns in responses. Continuous reflection and data synthesis will lead to the emergence of themes and patterns.

Given the nature of the PAR process, the details of the data gathering will be developed as a team at the outset of the research. As part of the PAR approach the research team will combine perspectives on knowledge of leadership from both the normative and interpretive paradigms through a method called *triangulation* (Alrichter et al 2006, Cohen et al 2000). It will employ *data triangulation* (e.g., multiple sources—literature searches, interviews, focus groups); *investigator triangulation* (a team of researchers who work together to determine the findings and decision-makers to make sense of the data gathered); and *theory triangulation* (using more than one theoretical scheme in making sense of change; i.e., scientific and interpretive schemas). Fundamental components of the process will include:

- Regional PAR team meetings to set direction for individual stages of the project for each case.
- Regular meetings of the regional node teams (both online and face-to-face) and detailed records of their case study investigations.
- Analysis of documentation of PAR team meetings, community of practice dialogues, etc. at node level.

- Journals for key participants outlining their perceptions about key activities and events exemplifying quality leadership, and circumstances that influenced/mitigated the impact of those actions.
- Collection of meeting minutes, records of decisions, and reports on the progress of change in each case.
- A summary case report at the end of each year and its implications as it pertains to the questions guiding the study. These reports will be collated and compared across sites and across contexts at the national level.
- A workshop in the final year in each regional node and in the national node to assess progress of the change project; record perceptions/observations of key leadership actions; and identify issues pertaining to context and environment that mitigate/enhance the impact of good leadership.
- A national level deliberative dialogue in the final year to outline key findings of the research; engage people in discussing the feasibility of, and the process for, refining the insights on effective leadership into a set of national standards; and to determine where and how current programs teaching leadership can be enhanced.

(e) Ethics review and approval process. This study will involve interviews and focus groups with participants in multiple jurisdictions across the country. Most of these sites will be subject to their own ethics review process. Seeking appropriate ethics reviews and approvals and coordinating these activities will be undertaken through the Office of Research at RRU. With this University's broad national reach, this office is very experienced in dealing with the jurisdictional ethics review challenges posed by a pan-Canadian study. Appropriate time will be budgeted during the start-up phase in Year 1 to ensure compliance prior to conducting any interviews, video recordings, or holding any focus groups.

Activity 2: Knowledge translation and mobilization work. As key elements of the project, the theoretical framework and methodological approaches will strongly integrate KT/KM during the study, (particularly through the PAR approach) and facilitate dissemination strategies at the end of the study. Strong partnerships will be created because of the emphasis on respecting and critically examining the "complex system of interactions between researchers and knowledge users [leaders]" (CIHR 2009:n.p.) from the inception of the study through to the real-time incorporation and dissemination of the findings. In addition to the traditional KT approaches—e.g., reports, publications, conference presentations—the following approaches to knowledge translation will be undertaken:

- building an online 'community' to support the network and research projects, including blogs and interactive communication approaches that lead toward an electronic 'community of practice' (Snyder et al 2003; Wenger et al 1998) to support the decision-maker, researcher, and knowledge translator triumvirate of teams, and the PAR research teams in each region.
- providing yearly 'evidence briefs' at national (CCHSE/CHLNet) and regional (e.g. HCLABC) conferences to present the available research evidence on a leadership gathered (literature evidence in Year 1, and insights from the case studies in Years 2 and 3).
- convening a national summit at the end of Year 3 to conduct a national deliberative dialogue to share the overall results that the network has generated. This activity will bring academics (researchers and, knowledge translators) and decision-makers (those involved in the study) together with health leadership, health administration, and post-secondary health educators to engage in a facilitated dialogue about lessons on leadership. One goal is to spark insights related to the content of professional development and for-credit programs in which leadership is taught. A second goal is to generate action by creating national standards and encouraging decision-makers to champion new approaches to leadership discovered in this study.
- creating a sub-group of the network as a final KT/KM project (comprised of decision-makers, researchers, and KT/KM experts) to undertake the responsibility of determining what revisions or adaptations may need to be made to the LEADS and/or other frameworks for evidence-informed national standards for leadership.

Activity 3: Developing a sustainable network of networks. Denis et al (2005) propose that "…researchers and practitioners [need] to pay greater attention to how strategic leadership is sustained through networks" (452). A key component of this project brings together decision-makers from provincial health ministries, regional health authorities, regional networks, hospitals, and other organizations with educators, researchers, and KT/KM experts to ensure that the group's work is applicable to the real-world leadership environment at all levels of the health system and sustainable over the long term. While there are a number of inter- and intra-organizational initiatives already underway in Canada, for the most part they are not evidence-informed approaches and are largely unconnected. Hence, our proposed network of networks. This concept is rapidly gaining momentum. Since 2003, leaders, including network researchers and practitioners across Canada and internationally, have met regularly to explore the value of inter-organizational networks, particularly in health care, culminating in a Consensus Statement as to the role of networks. "Canada is viewed as a world leader in using networks of organizations to integrate services, create and transfer knowledge, and build community capacity" (Networks Leadership Summit IV 2009).

As a foundation for network development, the team has focused on the LEADS in a Caring Environment framework as a starting point to coalesce energy. In the past two years the LEADS framework has gained tremendous interest and support from decision-makers across Canada (CHLNet 2009). However, the efficacy of the LEADS framework has not been assessed *in situ* for its relevance and meaning within real-world conditions and in various contexts within the Canadian system, particularly in the increasingly networked environment of health care. Little empirical work has been done to examine (1) whether the very behaviours and attributes of leadership as outlined in the LEADS framework are, in practice, directly or indirectly related to meaningful change; (2) how the LEADS framework applies to leadership practice in different contexts (e.g., front line leaders, mid-managers, senior leaders, politicians); and (3) what tools, techniques, and approaches to leadership development need to be developed to ensure that academic programs and professional development programs can instil these qualities of leadership as a foundation of their work. Getting answers to these questions is a prerequisite for making any significant investments in expanding health system leadership capacity by using the LEADS framework across Canada.

Potential pitfalls and limitations.

Potential pitfalls:

- Finding research cases in each of the five regional jurisdictions where leaders are amenable and willing to be investigated from the 'inside out'. However, the strength of the proposal is the size and scope of the decision-maker support and their respective networks in assisting with bringing in case studies. Expressions of interest have been received from a number of health authorities and the decision-maker network is confident that a full slate of cases will be identified.
- Ensuring significant commitment of time and energy from network and research participants in the study itself, given the busy work lives of leaders in the health system. This is being addressed through clarity of expectations, realistic expectations, and a formal commitment from each participant.
- Developing active and vibrant regional networks in areas that are still nascent—Maritimes, Prairies—by identifying the right researchers and knowledge translators to support the work in these areas. Decision-maker participants will not be as difficult to find as preliminary discussions with leaders in these jurisdictions indicate interest to participate.

Potential research design limitations:

- When using an interpretive paradigm there is an inability to produce generalizable results across the diverse Canadian health system. To counter this difficulty, case reports will be rich and thick (Yin 2009; Lincoln & Guba 2000) so readers and observers of the study can determine how findings relate to their own context. Similarly, it is the role of the KT/KM activities to engage people to reflect on, and make decisions regarding, how the findings fit in their own environment.
- Gaining agreement on data analysis interpretations. Protocols for decision-making and interpretive frameworks need to be developed and agreed upon by all research teams. This will be developed at the outset as a first order of business, with appropriate revisions as needed.

- Ensuring that all ethical considerations are adhered to rigorously. This will be mitigated by considering well in advance of start-up circumstances in which issues (such as confidentiality and protection of privacy) might occur, discussing solutions with the team, and providing the means to address issues that might arise during the conduct of the study so that they can be addressed promptly and effectively.

Strength of research team. The team is comprised of 18 nationally known senior executive level decision-makers, knowledge translators, and applied researchers in the health system drawn from five major geographic regions across the country. Collectively, the PHSI partnership possesses an outstanding breadth and depth of knowledge and expertise in key content areas of this study, including: qualitative research; health leadership and management; health systems; health policy; organizational learning and change; knowledge translation; complexity science and outcome evaluation. Overall the team has an extensive track record of productivity in both applied research and decision-making environments with significant impact and relevance at all levels of the health system evident through extensive knowledge dissemination activities and publications record. The applied research group is comprised of individuals nationally known for their contribution to leadership knowledge and research, and who represent several post-secondary institutions (Royal Roads University; University of BC [UBC]; University of Montreal; McGill University; University of Toronto; McMaster University; Dalhousie University; University of Alberta [U of A]) that are recognized for their contributions to health system leadership. The KT/KM team is comprised of individuals who are internationally well-known for developing the theory and practice of that discipline (e.g., have shaped the content of the Executive Training for Research Application (EXTRA) program at CHSRF; and developed materials germane to practices of KT/KM used across the country and abroad). It is also comprised of program leads who have responsibility for graduate programs in health administration and leadership. The decision-maker team (with co-applicants and collaborators) represents almost all the major national professional bodies in health, and includes a select group of well-known executives from leading health authorities. In the case of BC it includes a provincial professional body (HCLABC) to which individual decision-makers (i.e., hospital CEOs, physician leaders, etc.) belong. Decision-maker partners have committed to incorporating the findings into their own activities and research agendas in their respective organizations and as part of the larger health system, and knowledge translators into their development programs. The anticipated time commitments over the course of the study have been reviewed and agreed to by all members of the team.

Governance. Governance and stewardship of the network's projects will involve:

- A Network Steering Committee consisting of the PI, two representatives of CHLNet (one decision-maker and one knowledge translator), and two representatives each (one decision-maker; one researcher or knowledge translator) from the regional sites: total, 13 individuals. This committee will meet twice a year face-to-face and bi-monthly via teleconference.
- Five regional network nodes, consisting of the three leads from each region: one researcher, one decision-maker, and one knowledge translator. These nodes will oversee the research in the regional area, which will be conducted by a PAR team that will include the regional network lead and one representative each from the three (micro, meso, macro) case study sites.
- Three informal 'communities of practice' established online to meet and dialogue about respective issues and concerns re: applied research; KT/KM; leadership standards development.
- An executive secretariat, consisting of the PI, a representative from the RRU Office of Research, and the two representatives of CHLNet, supported by the Centre for Health Leadership and Research at RRU (Victoria) and CHLNet offices in Ottawa, that will ensure that the research and KT/KM work is done to support the research teams established both nationally and regionally.

Description of the research and decision-maker team and respective roles by network node.
1) National network node:
Graham Dickson, PhD. Principal applicant and Nominated Principal Investigator. Professor Emeritus,

Centre for Health Leadership & Research, RRU, Victoria; highly experienced in leading major change projects in education and health for over 30 years; significant experience in conducting applied research in health leadership; developed numerous programs for developing health leadership at RRU; overall responsibility for the methodology, design, development and execution of this study.
Bill Tholl, MA, ICD.D. Principal decision-maker applicant. Executive Director, Canadian Health Leadership Network (CHLNet); Executive in Residence, Centre for Health Leadership & Research, RRU, Victoria; and, Senior Research Fellow, Canadian Policy Research Networks, Ottawa; broad range of experience in health leadership development and research; will share overall responsibility for the methodology, design, development and execution of this study and represent decision-maker interests.
Don Philippon, PhD. Decision-maker co-applicant. Professor, Health Policy & Management, School of Public Health, University of Alberta; Special Advisor, Saskatchewan Academic Health Sciences Network; Co-chair, Steering Committee, Canadian Health Leadership Network; extensive knowledge of and experience in health leadership in Canada and internationally; in decision-maker role, will participate in all aspects of the study, interpretation of findings, and knowledge translation strategies.
Kathryn McDade. Decision-maker co-applicant. Director General, Health Care Policy, Health Canada; Co-chair, Advisory Committee on Health Delivery and Human Resources; extensive senior level experience in health care leadership at national scale; in knowledge translation role, will participate in all aspects of the study, particularly in implementing the knowledge translation plan and related activities.

2) British Columbia/Yukon network node:
Ronald Lindstrom, PhD, FCCHSE. Co-Applicant. Adjunct Professor, Centre for Health Leadership and Research, RRU, Victoria; Clinical Associate Professor, School of Population & Public Health, UBC; Health Systems Consultant; extensive experience in senior health care leadership; works in the academia–practice gap; will co-ordinate research activities for BC/Yukon network node and be actively involved in all aspects.
Charlyn Black, ScD, MD. Co-Applicant. Associate Director, Centre for Health Services & Policy Research; Professor, School of Population & Public Health, UBC; wide breadth and depth of experience in health services and policy research, research methods, and KT; will be engaged in all research activities for BC/Yukon network node and be involved in all aspects of the study.
Geoff Rowlands. Decision-maker co-applicant. President and Chief Executive, Health Care Leaders Association of BC, Victoria; highly experienced in health care leadership and management, health systems and policy; in decision-maker role, will participate in all aspects of the study, interpretation of findings, and knowledge translation strategies.
Aslam Anis, PhD. Decision-maker co-applicant. Professor and Director, MHA Program, School of Population & Public Health, UBC; Director, Centre for Health Evaluation and Outcome Sciences, Vancouver; in knowledge translation role, will draw from experience in developing leadership capacity in the context of knowledge mobilization and curriculum development in post-graduate educational programs.

3) Prairies Network Node:
Don Philippon, PhD. Co-applicant. University of Alberta. Will uniquely serve as both a research and decision-maker co-applicant; will co-ordinate all research activities for Prairies network node and be actively involved in all aspects of the research process.
Maura Davies, BSc, BEd, MHSA, FCCHSE. Decision-maker co-applicant. President & CEO, Saskatoon Health Region. As a highly experienced senior level decision-maker, will participate in all aspects of the study, interpretation of findings, and knowledge translation strategies.
Allen Backman, PhD. Co-applicant. Director, MPH Program, School of Public Health, University of Saskatchewan; national and provincial experience in health reform and system redesign; in knowledge translation role, will participate in all aspects of the study, particularly in implementing the knowledge translation plan and related activities.

4) Ontario Network Node:
Ross Baker, PhD. Co-Applicant. Professor, Department of Health Policy, Management and Evaluation, University of Toronto; extensive background in organizational change, organizational culture, and team

effectiveness; will co-ordinate all research activities for Ontario network node and be actively involved in all aspects of the research process.

Joshua Tepper, MD, MPH. Decision-maker co-applicant. Assistant Deputy Minister of Health Ontario Ministry of Health and Long Term Care, Health Human Resources Strategy; Senior Medical Officer, Health Human Resources Strategies Division, Health Canada; extensive experience in innovation and management of change at the macro scale; will participate in all aspects of the study, interpretation of findings, and knowledge translation activities.

John Lavis, MD, PhD. Co-applicant. Professor, Clinical Epidemiology and Biostatistics, Faculty of Health Sciences, McMaster University. Canada Research Chair (Tier 2) in Knowledge Transfer and Exchange; IDRC Chair in Evidence-informed Policies & Systems; extensive experience in knowledge translation and mobilization (particularly deliberative dialogue), evidence-informed health policies and systems, and policy-making; in knowledge translation role, will participate in all aspects of the study, with a key role in implementing the knowledge translation plan and conducting the deliberative dialogue session(s).

5) Quebec Network Node:

Jean-Louis Denis, PhD. Co-applicant. Professor, Health Administration; Director, Groupe de recherché interdisciplinaire en santé (GRIS), University of Montreal; expertise in the decision-making process, change, and innovation, and implementing major public sector reform initiatives; will co-ordinate all research activities for Quebec network node and be actively involved in all aspects of the research process.

Regis Blais, PhD. Co-applicant. Professor, Groupe de recherché interdisciplinaire en santé (GRIS), University of Montreal; major focus on outcomes evaluation, particularly practical knowledge regarding issues facing the health system; will assist in co-ordination activities for the Quebec node and actively participate in all aspects of the research process.

Francoise Chagnon, MD. Decision-maker collaborator, with intent to take on full co-applicant role. Director of Professional Services, Institut de readapatation Gingras Lindsay de Montréal; expertise in clinical health services delivery; will participate in all aspects of the study, interpretation of findings, and knowledge translation activities.

Robyn Tamblyn, PhD. Co-applicant. Professor, Faculty of Medicine, McGill University, Montreal; expertise in health services and practice changes; in knowledge translation role, will participate in all aspects of the study, particularly in implementing the knowledge translation plan and related activities.

6) Atlantic Network Node:

David Persaud, PhD. Co-applicant. Associate Professor, Health Services Administration, Dalhousie University; vast experience in organizational learning and change; will co-ordinate all research activities for Atlantic network node.

Chris Power, BSN, MHSA, CHE. Decision-maker co-applicant. President & Chief Executive Officer, Capital Health District, Halifax; highly skilled in strategic and operational leadership and patient-centred service delivery; will participate in all aspects of the study, interpretation of findings, and knowledge translation activities.

Anne McGuire, BN, MHSA, CHE. Decision-maker co-applicant. CEO, Izaak Walton Killam Health Centre, Halifax; experienced in operations level leadership and patient-centred service delivery; in knowledge translation role, will participate in all aspects of the study, particularly in implementing the knowledge translation plan and related activities.

Master's and Doctoral Students. Five Master's students, one per node, will be selected by the regional teams to work with them and the national hub. Students will receive practical skills and advanced training through their participation in the literature review, assisting with the research design, data gathering and analysis, and dissemination of results. They will experience unique opportunities to work first-hand with a diverse team of seasoned researchers and decision-makers and will be exposed to all facets of KT, in theory and practice, throughout this study. Five Doctoral students, one per node, will be identified by the regional teams and recruited in Year 3 to focus on curriculum gap identification and analysis so as to inform possible changes required in educational and training programs, including likely revisions to curricula.