LEADERSHIP COMPETENCIES FOR PUBLIC HEALTH PRACTICE IN CANADA

ENVIRONMENTAL SCAN

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Community Health Nurses of Canada (CHNC) is a national organization for community health registered nurses to advance practice and to improve the health of Canadians. CHNC represents the voices of community health nurses; advances practice excellence; creates opportunities for partnerships across sectors and networks; strengthens community health nursing leadership; advocates for healthy public policy to address social and environmental determinants of health; and promotes a publicly funded, not for profit system for (community) health. CHNC is an associate member of the Canadian Nurses Association (CNA).

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Leadership Competencies for Public Health Practice in Canada

Environmental Scan

Table of Contents

1. Project Description 1
2. The Environmental Scan 2
3. Key Definitions 2
4. Environmental Scan Results 3
   - 4.1. Literature Review 3
     - 4.1.1 Personal qualities, enablers and barriers 4
     - 4.1.2 Gaps and challenges identified in the literature 6
   - 4.2 On-Line Survey 7
     - 4.2.1 Gaps and challenges identified by the On-line Survey 9
   - 4.3 Focus Group Webinars 9
     - 4.3.1 Gaps and challenges identified by the Focus Group Webinars 11
5. Discussion 11
   - 5.1 A Public Health Lens 12
   - 5.2 Need for Critical Social Theory 12
   - 5.3 Values then Ethics 14
     - 5.3.1 Values 14
     - 5.3.2 Ethics 14
   - 5.4 Engagement 15
   - 5.5 Emotional Intelligence 17
   - 5.6 Gender 18
   - 5.7 Conflation of Management and Leadership 19
   - 5.8 Competition within the Health System 19
   - 5.9 Context 21
   - 5.10 Consolidating Frameworks 22
     - 5.10.1 Organizing framework for the project 22
     - 5.10.2 Organizing template for competencies 22
     - 5.10.3 Organizing model for leadership 26
   - 5.11 Final Thought 26

6. Conclusion 26
7. Recommendations 28
8. Recommendations for the Development of Leadership Competencies Statements 29

References 32

Appendices

A. Literature Review Report
B. Organizational Readiness Report
C. On-line Survey Report
D. Focus Group Webinars Report
E. LEADS Framework

Leadership Competencies for Public Health Practice in Canada

Environmental Scan

1. PROJECT DESCRIPTION

In 2013, Community Health Nurses of Canada (CHNC), in partnership with Canadian Institute of Public Health Inspectors (CIPHI) and the Manitoba Public Health Managers Network (MPHMN), received funding from the Public Health Agency of Canada (PHAC) for a 3-year project to develop interdisciplinary leadership competencies for public health practice in Canada (LCPHPC) for the seven key public health disciplines. The LCPHPC Project consists of four component parts: an environmental scan that includes a scoping literature review, on-line survey and focus group webinars; competency development through a Delphi process; and a knowledge translation plan to foster uptake of the competencies. The fourth component is an evaluation process in two parts: formative (interim) and summative (final) (Figure 1).

A Project Steering Committee and an Expert Advisory Committee were struck to guide the LCPHPC Project; the governance of the LCPHPC Project is illustrated in Figure 2. The key partners in the Project (CIPHI and the MPHMN) are represented on the Project Steering Committee. The Expert Advisory Committee comprises representatives of the seven public health disciplines and key stakeholders (e.g., National Collaborating Centre Determinants of Health, Canadian Public Health Association).

The Academic Partner Team (under the auspices of *Robinson Vollman Inc.*) includes Drs. Robinson Vollman, Thurston, and Meadows of the University of Calgary along with several research assistants and support people as noted in the various component reports. The Project Consultant is Helena Wall of *Innovative Solutions Health Plus* in Winnipeg.

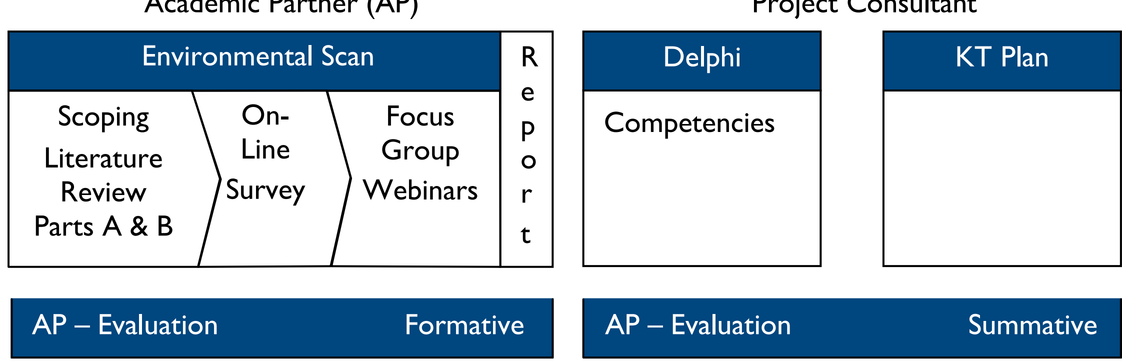

Figure 1. The four component parts of the LCPHPC Project

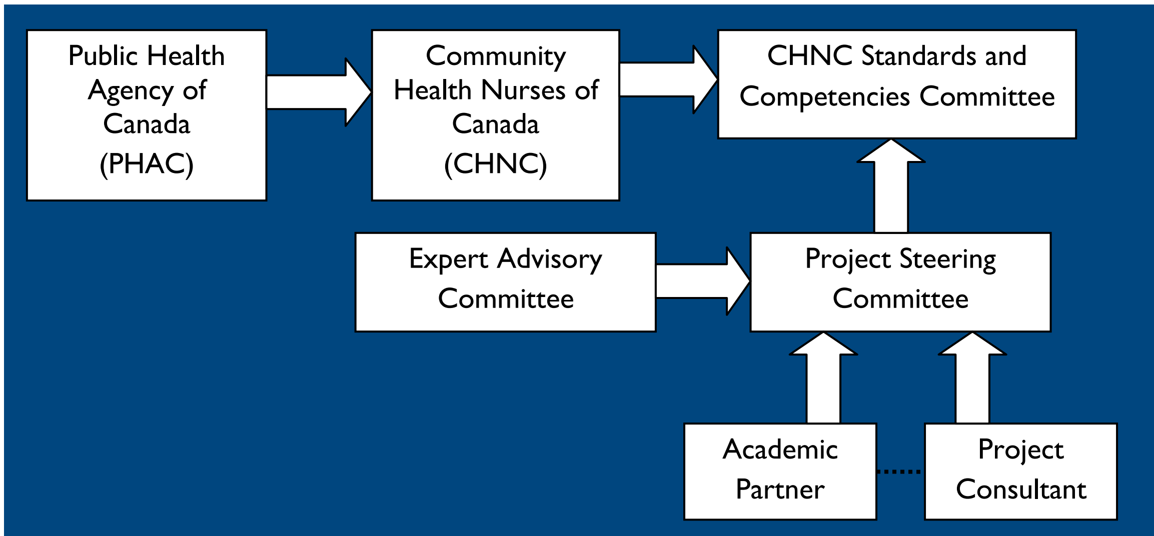

Figure 2. Governance Model of the LCPHPC Project

2. THE ENVIRONMENTAL SCAN

The purpose of the Environmental Scan was to provide evidence to support the development of competencies for public health leadership in Canada.

The reports of the three research phases – the scoping literature review in two parts (literature review and organizational readiness), on-line survey, and focus group webinars – have all been reported separately (Appendices A, B, C and D). In this report we will synthesize the results of the three phases, discuss gaps in knowledge that were identified, offer a framework for understanding leadership in public health, and provide recommendations for the development of leadership competencies in the next component of the LCPHPC Project, the Delphi Process.

3. KEY DEFINITIONS

Key definitions used in the Project are as follows.

Public health is described by the PHAC as "the science and art of promoting health, preventing disease, prolonging life and improving quality of life through the organized efforts of society."[1] As such, "public health combines sciences, skills, and beliefs directed to the maintenance and improvement of the health of all people through collective action. The programs, services, and institutions involved tend to emphasize two things: the prevention of disease and the health needs of the population as a whole" (National Advisory Committee on SARS and Public Health 2003, p.46). In Quebec's Public Health Act the margins of public health are clearly described:

[1] http://www.phac-aspc.gc.ca/publicat/sars-sras/naylor/3-eng.php#s3a2

Public health actions must be directed at protecting, maintaining or enhancing the health status and wellbeing of the general population and shall not focus on individuals except insofar as such actions are taken for the benefit of the community as a whole or a group of individuals. (Government of Quebec, 2001)

Leadership in public health is defined by PHAC as:

Leadership is described in many ways. In the field of public health it relates to the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of their community and/or the organization in which they work. It involves inspiring people to craft and achieve a vision and goals. Leaders provide mentoring, coaching and recognition. They encourage empowerment, allowing other leaders to emerge. (PHAC, 2007)

Competencies are the "knowledge, skills and abilities demonstrated by members of an organization or system that are critical to the effective and efficient function of that organization or system" (Joint Task Group on Public Health Human Resources, Advisory Committee on Health Delivery and Human Resources, Advisory Committee on Population Health and Health Security 2005, p.24).

Enablers/facilitators are those things that supply the means, knowledge or opportunity to make something able, feasible or possible. Enablers give power, capacity or sanction; they make operational, and activate.

Barriers are obstacles that prevent movement or access, or circumstances that prevent things from coming together.

4. Environmental Scan Results

The Environmental Scan began with a comprehensive and rigorous literature review to learn what had been said about public health leadership competencies to date, to determine the facilitators, enablers and barriers to leadership in public health, and to examine the readiness of public health organizations for leadership. Both scholarly and grey literature were included. Guiding the review were the following questions, approved by the Project Steering Committee on April 18, 2013:

1. What is the extent of the literature on leadership competencies for public health?
2. What literature exists regarding enablers, facilitators and barriers for public health leadership?
3. What organizational readiness tools exist for use in public health organizations in Canada?

4.1. Literature Review

We undertook a scoping literature review from June to September 2013. Our search strategy yielded 3228 citations, of which 139 public health leadership full text articles were retained. The quality of the retained literature was found to be moderate to strong. Grey and supplementary literature contributed an additional 68 papers. Three-quarters of the retained public health leadership literature was from the United States (51%), the United Kingdom (14%) and Canada (9%). By far, the bulk of literature was from

public health leadership literature (as compared to community, health care organization and health promotion leadership topics) and public health nursing (as compared to nutrition, pharmacy and epidemiology). More detail is located in the Literature Review Report (Appendix A).

4.1.1 Personal qualities, enablers and barriers

The results of the literature review were integrated into lists for each major category: Personal Qualities, Enablers and Barriers. The lists were narrowed to ten summary statements in each of the subcategories within the major categories in order to facilitate the next phases of the Environmental Scan.

A personal quality can be conceived as a distinguishing characteristic, attribute or capability held by an individual. We identified knowledge, skills and behaviours as categories of personal qualities for successful leaders. What follows are the ten summary statements as derived from the literature for each of these three categories, presented in alphabetical order.

Knowledge Areas

1. Critical social theory
2. Cultural awareness
3. Determinants of health
4. Health demographics and outcomes
5. Inequality, inequity and social justice
6. Population and public health
7. Regulatory systems
8. Structural aspects of society
9. Technology (including communications/operational processes)
10. Values and ethics

Skills

1. Builds consensus, mobilizes, has negotiation/mediation skills
2. Communicates clearly and transparently
3. Communicates up and down the organizational hierarchy
4. Demonstrates innovation and creativity
5. Envisions and adapts to a rapidly changing healthcare system
6. Has systems/critical thinking skills
7. Supports, empowers, builds capacity
8. Understands the different styles/expectations of communication across professions
9. Uses evidence-based decision-making
10. Well-connected, political competence

Behaviours

1. Advocates for and guides change
2. Demonstrates an ongoing willingness to learn
3. Demonstrates drive, motivation, forward thinking
4. Engenders rapport and trust
5. Is accountable
6. Models and mentors
7. Promotes involvement
8. Recognizes contributions of others
9. Reflexivity and flexibility in response to criticism
10. Serves as a catalyst, build partnerships, coalitions and capacity, and shares leadership

The organizing framework for the Environmental Scan included an assessment of enablers or facilitators for leadership as well as barriers to effective leadership.

We classified enablers into two categories – personal and external. The list of ten summary statements for each is presented in alphabetical order.

The personal enablers, that is, those factors held by an individual (i.e., micro level) that assist, ease and support the exercise of leadership, documented in the literature included:

1. Are able to engender trust
2. Are champions for public health principles, actions and interventions
3. Are empowering; enable others by providing strong, unwavering support
4. Are fluent in the language of the multiple professions with whom they interact
5. Are responsive and accessible
6. Embrace change
7. Have credibility, are opinion leaders
8. Promote a healthy workplace culture
9. Share a personal vision that is explicit, clear and compelling
10. Share power horizontally; use a democratic decision-making style

External enablers, supports that are located in the organization (i.e., meso level), in the health system, in the community, and in the political contexts within which public health action functions (i.e., macro level), included:

1. Mentorship and succession planning; professional development and networking support
2. Organizational empowerment of leadership vision; strategic and tactical support for the vision
3. Organizational regulation and policy to support full scope of practice
4. Organizations that embrace the social justice approach and include health equity indicators in its reports
5. Organizations that foster trust through ongoing and transparent communication
6. Organizations that support innovation, creativity and flexibility
7. Organizations that value leadership at all levels and acknowledge, recognize, and take advantage of its formal and informal leaders
8. Policy commitment throughout an organization, from human resources, budgets, high quality data collection, and adherence to external policies and standards
9. Receipt of cooperation and collaboration with government agencies
10. Sustainable funding at system and community levels to maintain community engagement and population health programs

Similarly, we classified barriers into categories: personal, organizational and system levels, and again the summary statement lists are presented in alphabetical order.

Personal barriers, or those obstacles experienced by individuals (i.e., micro level) in leadership roles, included:

1. Burnout; turnover
2. Colleagues and team members who are overloaded, overwhelmed, unresponsive, self-interested, passive
3. Lack of mentoring; lack of education or training; limited opportunities for continuing education
4. Lack of political power; lack of political skills to influence policy
5. Organizational context and setting; lack of trust in the organization
6. Organizational growth and ongoing change
7. Perception that leadership is an 'add on' part of the job
8. Staff resistance; lack of accountability of team members
9. The need to deal with confrontation and opposition
10. Underutilization of evidence to inform decision making both in strategy and developing performance indicators

Barriers conveyed by the employing organization (i.e., meso level) included:

1. Absent culture of improvement; lack of organizational support for evidence-based practice and barriers to evidence uptake
2. Competition between clinical care and public health mandate
3. Lack of commitment to the determinants of health
4. Lack of information technology (IT) support
5. Lack of understanding of public health and its value among staff
6. No dedicated time for leadership (including time for training and health promotion work)
7. Organizational growth and change
8. Organizational structures that do not align with professional values and priorities
9. Staffing shortages
10. Unclear mission; misalignment of goals, objectives and incentives

Barriers found in the community and the system itself (i.e., external macro-level forces) included:

1. Challenges of designated funding to be used at local levels
2. Community engagement that involves partnership and collaboration; local needs that might be in conflict with 'big picture' public health
3. Conflicts arising from scope of practice or professional ownership
4. Emergence of new public health related professions
5. Inconsistent public health messages
6. Lack of supportive legislation in some areas; legislation and public policy that affect population health outcomes
7. Low visibility of public health practitioners
8. Outcomes of diminished funding; challenges for adequate funding of public health infrastructure, including technology
9. Sustainability of programs and efforts in the public health sector
10. The public health sector is a small part of the larger health care system; multiple and varied priorities, with competition between curative and preventative activities

4.1.2 Gaps and challenges identified in the literature

In our discussion, we noted that much of the literature conflated the terms *management* and *leadership*, and predicted that the overlap in terminology would make delineating competencies for leadership apart from management difficult. There is a gap in the understanding of how leadership affects public health outcomes, and how leadership and teamwork interface. Further, we noted that a great deal of the literature reviewed was atheoretical; that is, no specific leadership theories were stated by authors. Another issue we highlighted was the silence regarding the goal of public health in the definition of public health leadership; little mention was made of reducing inequity, for example. A limitation of the literature review was the relative lack of Canadian literature compared to that from the US and the UK.

A separate review was conducted to address the question of what organizational readiness tools exist. We retained 62 citations – 46 from on-line databases, 5 from grey literature, and 11 from reference lists and expert recommendations. We found that readiness tools were categorized in two ways: situational assessment models and process models. We found one very robust tool, Organizational Readiness to Change Assessment (ORCA) by Helfrich, Sharp, and Sales (2009) that had been developed on the basis of the PARIHS framework – Promoting Action on Research Implementation in Health Services. This tool

measures the readiness of health care organizations to implement evidenced-informed interventions. This tool has been evaluated for reliability and validity, and has been tested in a Canadian clinical facility. In fact, one of its developers is Canadian.

For more detailed information on the search for organizational readiness tools, see the report of this review (Appendix B).

4.2 On-Line Survey

The next phase in the Environmental Scan was to establish the order of critical importance of the ten statements in each of the categories from the literature review. Engaging members of the Expert Advisory Committee, we circulated a survey to the membership of the seven public health disciplines engaged in the LCPHPC Project in December 2013 and January 2014. We received 821 responses. Particularly noteworthy is that 42% of responses came from front-line workers. The full report of the On-line Survey is located in Appendix C.

Of the survey respondents, 82% supported the PHAC definition of public health leadership, but others desired a modification to address public health context and a definition of effectiveness and success in terms of population health. To quote from the report:

Furthermore, the PHAC definition did "not address the key focus of public health in terms of health equity and reduction of health inequity as the key outcome", or the goal to "equalize opportunities (conditions) for the population/community to be healthy", and ultimately that effective public health leadership leads to a "positive impact on the health of the population." (Appendix C, p. 6)

Similar to what we discussed in the literature review, respondents noted that leadership must be distinguished from management and must embrace teams as well as individuals as leaders in public health practice. Some respondents made suggestions on different wording for the statements in each category, and others found the organizing framework (i.e., enablers, barriers) problematic.

The following tables list the top five statements ("Top 5") in each category of qualities, enablers and barriers determined to be the most critical for public health leadership by the on-line survey results.

Table 1. "Top 5" qualities of public health leaders

Knowledge Areas	Skills	Behaviours
1. Population and public health 2. Determinants of health 3. Values and ethics 4. Health demographics and outcomes 5. Inequality, inequity and social justice	1. Communicates clearly and transparently 2. Supports, empowers, builds capacity 3. Has systems/critical thinking skills 4. Builds consensus, mobilizes, has negotiation/mediation skills 5. Uses evidence-based decision-making	1. Serves as a catalyst, builds partnerships, coalitions and capacity, and shares leadership 2. Is accountable 3. Demonstrates drive, motivation, forward thinking 4. Engenders rapport and trust 5. Models and mentors

Table 2. "Top 5" enablers for public health leadership

Personal Enablers	External Enablers
1. Are empowering; enable others by providing strong, unwavering support 2. Are champions for public health principles, actions and interventions 3. Are responsive and accessible 4. Are able to engender trust 5. Have credibility, are opinion leaders	1. Organizations that value leadership at all levels and acknowledge, recognize, and take advantage of its formal and informal leaders 2. Organizations that foster trust through ongoing and transparent communication 3. Sustainable funding at system and community levels to maintain community engagement and population health programs 4. Mentorship and succession planning; professional development and networking support 5. Organizational empowerment of leadership vision; strategic and tactical support for the vision (e.g., built-in support for vision in organizational planning and performance indicators)

Table 3. "Top 5" barriers to public health leadership

Personal Barriers	Organizational Barriers	Macro-level Barriers
1. Colleagues and team members who are overloaded, overwhelmed, unresponsive, self-interested, passive 2. Organizational context and setting; lack of trust in the organization 3. Lack of political power; lack of political skills to influence policy 4. Lack of mentoring; lack of education or training; limited opportunities for continuing education 5. Underutilization of evidence to inform decision making both in strategy and developing performance indicators	1. Organizational structures that do not align with professional values and priorities 2. Competition clinical care and public health mandate 3. Absent culture of improvement; lack of organizational support for evidence-based practice and barriers to evidence uptake 4. No dedicated time for leadership (including time for training and health promotion work) 5. Unclear mission; misalignment of goals, objectives, and incentives	1. The public health sector is a small part of the larger health care system; with competition between curative and preventative activities 2. Outcomes of diminished funding; challenges for adequate funding of public health infrastructure, including technology 3. Lack of supportive legislation in some areas; legislation and public policy that affect population health outcomes 4. Sustainability of programs and efforts in the public health sector 5. Low visibility of public health practitioners

4.2.1 Gaps and challenges identified by the On-line Survey

We found the lack of acceptance of critical social theory as one of the "top 5" knowledge areas to represent a notable gap in the knowledge expected of leaders. Because critical social theory underpins health promotion and the population health approach, this absence was troubling to us. Phrases such as "the values and ethics" of public health were found frequently in the comments sections of the survey. Respondents also reported the need for a broader knowledge base, including change theory, marketing, communication, and knowledge translation, among others.

In our conclusions from the on-line survey, we recommended the following:

- A glossary of terms with robust definitions should accompany the competencies for leadership in public health.
- All knowledge translation activities must emphasize that the LCPHPC Project is about leadership, not management, and furthermore, that leadership is exhibited by both individuals and teams at all levels throughout an organization.
- When drafted, consideration should be given to "levelling" the competencies (e.g., novice, intermediate, advanced) to take into account the leadership development process.

As informed by the on-line survey, advice to the next phase of the Environmental Scan, to gather opinions of public health leaders, included the need to explore in more depth the meanings associated with "values and ethics of public health."

4.3 Focus Group Webinars

Following the literature review and on-line survey, we conducted focus group webinars with public health leaders as nominated by the Expert Advisory Group (see Appendix D for the full report). The questions for the focus groups included:

1. To what degree do public health professional leaders agree or disagree with the results of the on-line survey?
2. Should anything be added to leader qualities, enablers or facilitators, and barriers for public health leadership?
3. Are public health professional leaders aware of any organizational readiness tools that will assist the uptake of the competencies in public health agencies in Canada?

Data were collected in May 2014. There were a total of 27 participants (from the list of 92 nominated leaders); 30% were male, 49% were from middle and senior management positions, and all disciplines and all parts of the country were represented.

In general, the "top 5" statements from each category were supported, although with some additions and clarifications suggested.

Table 4. Suggested additions and clarifications to qualities of leaders

Additions	Clarifications
Knowledge Areas	
Self-awareness Emotional intelligence Understanding of position within larger health and social system	*none*
Skills	
Has organizational and political savvy Able to manage change Supports cultural change (i.e., environments that support evidence- informed decision making) Shares vision (named in the PHAC definition of leadership)	Makes evidence-informed decisions
Positive Behaviours	
Practices ongoing self-reflection Takes risks Is passionate Is confident, assertive	Demonstrates perseverance Acts as catalyst and develops leadership qualities *in situ* Builds relationship, builds confidence in others

Table 5. Suggested additions and clarifications for enablers of public health leadership

Additions	Clarifications
Personal Enablers	
Are able to identify and seize opportunities and take risks	Difference between having credibility and being an opinion leader
External Enablers	
Focus on social justice issues relating to vulnerable populations	Clear role for public health as it relates to accountability, advocacy and political influence

Table 6. Suggested additions and clarifications for barriers to public health leadership

Additions	Clarifications
Personal Barriers	
Gender, ethnicity, age	Influence vs. power
Organizational Barriers	
Change management processes, and succession planning	Absent culture of improvement and change Evidence-informed decision making vs. evidence-based Low visibility of public health Lack of common understanding of the role and importance of public health and public health leadership
Macro-level Barriers	
	Distinction of enablers vs. barriers is unclear Barriers and enablers are interchangeable (i.e., two sides of same coin)

4.3.1 Gaps and challenges identified by the Focus Group Webinars

Notably, all groups struggled with the organizing framework used for the LCPHPC Project; they found it difficult to conceptualize.

As stated in the Focus Group Webinars Report:

"The resistance among participants to the organizing framework used to present the material was most prominent when reviewing personal enablers and barriers of public health leaders. The framework presents the context of public health leadership as having enablers and barriers over which an individual has different levels of control and influence. Personal enablers and barriers are presumably something that personal action and choices can impact." (Appendix D, p.23)

Participants struggled with the terminology of the organizing framework: in understanding the separation of enablers and barriers, and how personal qualities and enablers (micro level) function within the everyday context of public health practice (meso and macro levels). In response to the challenges of the organizing framework in the focus groups and previously in the on-line survey, it is our recommendation to examine alternative frameworks for use in the next component of the LCPHPC Project, the Delphi process, to develop competency statements.

Focus group participants suggested several additions or clarifications to the categories that had not been selected as "top 5" by on-line survey respondents; several were actually represented within the ten statements for each category as derived from the literature review. The fact that the focus group participants represented higher-level positions in public health organizations, whereas on-line survey respondents largely represented front-line staff, may have been a factor. Of concern was that "knowledge of critical social theory" remained off the radar for both on-line survey respondents (who ranked it 10th of ten) and focus group participants.

5. Discussion

Several terms and concepts – public health lens, emotional intelligence, engagement, and gender – used by focus group participants have not been interrogated sufficiently in the separate reports of the Environmental Scan phases (Appendices A, B, C and D). In addition, certain issues were raised across all phases of the Environmental Scan: conflation of the terms *management* and *leadership* and recognition that leadership can occur at all levels in a hierarchical organization; the need for recognition of leadership roles and the time needed for these apart from regular job responsibilities; competition within the health sector and the scope of influence of public health leaders; values and ethics of public health; organizational context for leadership; and the various organizing frameworks utilized by the LCPHPC Project. Further, we remain concerned about the lack of support for critical social theory as foundational knowledge for public health leadership.

The following sections will address these matters, with the intent to provide a firm foundation for the development of the competency statements for public health leadership.

5.1 A Public Health Lens

A term that was used frequently by the participants who represent Canadian public health leaders was "public health lens"; however, a clear definition or conceptualization of this was not found in our earlier or subsequent searches of the published literature. Since this is a useful term that cuts across the seven disciplines, we felt it was important to begin the dialogue by defining this lens. A description was found in the CPHA (2014) policy statement on illegal psychoactive substances and what follows is an adaptation.

A public health lens or 'way of seeing the world' is based on the principles of social justice, attention to human rights and equity, need for evidence-informed policy and practice, and the centrality of the underlying determinants of health. Thus, the six functions of public health need to apply the lens and take these principles into consideration when designing programs and policies. By applying a public health lens one can see that an organized, comprehensive and multisectoral effort directed at maintaining and improving the health of populations is needed.

A public health lens is focused on identifying and then acting on the determinants of health (as defined by PHAC[2]) across the life course and also includes an analysis of the root causes of inequity (e.g., power imbalance, racism, classism, ageism, sexism). A public health lens, for instance, recognizes that unhealthy behaviour is often symptomatic of underlying health issues (e.g., physical, emotional) and of structural or social inequities. As such, a public health lens must include the perspectives of people who directly or indirectly have a stake in the outcomes of programs or policies. This description of a public health lens suggests that public health leaders need a critical approach to research and its results that is informed by critical social theory. They also need a good understanding of what engagement entails, as compared to consultation or other means of communication.

We acknowledge that it was the public health lens that guided this Environmental Scan but it remained implicit rather than being explicitly stated. It will be important to make the public health lens an explicit ontological or philosophical position to attain consistency across Canada in public health leadership, especially when it comes to values and ethics.

5.2 Need for Critical Social Theory

Rather than developing theory to explain social phenomena, in order to facilitate social change that benefits the least powerful and dominated members of society, critical social theory is aimed at understanding the underlying assumptions of how social relations work and maintain the status quo. Critical social theory is historically specific, that is it is aimed at understanding a society at a particular point in time and place in order to address explicit conditions that are targeted for change. According to Horkheimer (1975) there are three essential elements to critical theory: it must be explanatory, practical, and based in the local social context (i.e., normative), all at the same time. One might draw the analogy between critical theory as a tool for public health and the population health "causes of causes" (Rose, 1985) approach.

[2] See *Determinants of Health: What Makes Canadians Healthy or Unhealthy?* at http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php#determinants

Canada's public health system has six functions: population health assessment; health surveillance; health promotion; disease and injury prevention; health protection; and emergency preparedness. Public health has evolved over past decades from its original focal point of communicable disease control, shifting to chronic disease prevention, and then repositioning itself recently to addressing health inequities. With this evolution there is an ongoing need to articulate the nature of existing or potential inequities in each of the public health functions.

Participants who contributed to the Environmental Scan did not identify critical social theory among their "top 5" priorities for excellence in public health leadership practice. Nonetheless, as stressed in the discussion of the public health lens, knowledge and use of critical social theory play an important role in leadership competencies. The biomedical model upon which traditional public health is founded values empirical quantitative evidence over qualitative and experiential knowledge, thus the newer and more questioning stance of critical social theory has likely not been promulgated widely, except in the health promotion function. The Ottawa Charter for Health Promotion (1986) and the Alma Ata Declaration (1978) are very explicitly founded on principles of critical social theory, for example.

As was evidenced in the three research phases of the Environmental Scan, as public health leaders "influence, motivate and enable others to contribute toward the effectiveness and success of the organizations" they must have a sound understanding of the environment in which they are working. In order to effect change in a multidisciplinary, complex, multilayered environment, the underlying elements must be understood from a critical stance; that is, why certain situations exist, how they operate and what norms and values are driving them. Although critical social theory was not identified as a priority, survey and focus group responses reflected that participants value the underlying principles of that theoretical stance, that is, they reflected on the importance of gender, ethnicity and age as barriers to leadership, and they distinguished political from personal power (Appendix D, p.11). The need for a "culture of change" was emphasized and the importance of undoing the dominance of the term "evidence-based" and shifting to a term that incorporated the knowledge and experience of practitioners and community members (i.e., evidence-informed) are other examples of participants using critical social theory without actually recognizing it as such (Appendix D, p.12). Also, noting that the relationship between patients and professionals in acute care and the "biomedical lens" are very different from the relationships between public health practitioners and the populations served, the public health lens is a very good example of the use of critical social theory to understand the tension between the sectors of the health system (Appendix D, p.13). Finally, participants noted that "small 'p' political savvy" was needed to negotiate relationships between and among different disciplines and hierarchies within the health system, which is beginning to critique notions of power, a central aspect of critical social theory (Appendix D, p.15).

Thus, rather than recommending that public health leaders take training in critical social theory, we recommend that the public health system start to acknowledge and name critical social theory so that public health leaders can recognize the important roots of the public health lens and public health practice. It is after all critical social theory that calls upon public health to work collectively and intersectorally to advocate for and to create social action on social problems that are contentious and not

necessarily seen as belonging in the health sector (e.g., poverty, domestic violence, built environment). Successful leaders therefore create organizations where "contention and challenges to the status quo are not only welcomed, but also made productive" (Painter-Morland, 2011, p.153).

5.3 Values then Ethics

5.3.1 Values

Values and their underlying beliefs form the basis for ethical principles but they are not the same thing. Values are "group conceptions of the relative desirability of things"[3]; thus, values are informed by our social networks and relationships. Our original health disciplinary education may shape our values in ways that are not made explicit. As was identified in the discussion of the public heath lens and critical social theory, values that are part of public health need to be made explicit (e.g., human rights, public goods, community, equality, equity, right to health). The participants recognized that this had not occurred.

The dominant biomedical model has been explored in terms of its lack of relevance to a public health lens and, again, the different values that are foregrounded in that model (e.g., individual rights, technology, patient-centred, quality of care, access to care, sustainability, accountability).

5.3.2 Ethics

Each of the disciplines in public health has a professional code of ethics as determined by their respective regulatory bodies. The domination of the biomedical lens and its values is reflected in these professional codes of ethics. Public health practitioners and researchers have in recent years, for instance, pointed for the need to recognize harms that could occur at the level of a community (e.g., pollution, speed limits, civic disorder). The Public Health Leadership Society (2002) lists the values and beliefs underlying the US code of ethics for public health in three categories: health; community; and basis for action. The US code of ethics incorporates what we have described as the public health lens. The Canadian National Collaborating Centre for Healthy Public Policy (NCCHPP) has begun to explore public health ethics. In a 2014 policy briefing note it stated that there are four perspectives on public health ethics:

> ***Professional ethics****, or the ethics of public health, relates to the mission of public health to protect and promote health and focuses on the virtues or professional character.*
>
> ***Applied ethics****, or ethics in public health, seeks to develop general principles that can be applied to practical situations to guide ethical practice.*
>
> ***Advocacy ethics****, or ethics for public health, involves taking a stand for the goals, interventions, and reforms that are most likely to achieve the moral aims of public health (Gostin, 2001).*
>
> ***Critical public health ethics*** *is historically informed, practically oriented, and considers social values and trends in analyzing and understanding both the public health situation at hand and the moral problems it raises (Callaghan & Jennings, 2002). It asks us "to question the taken-for-granted and think about the ways in which power relations are represented" in particular public health concerns (Nixon, 2006).* (MacDonald, 2014)

[3] http://www.sociologyguide.com/basic-concepts/Values.php

It is the beyond the scope of the LCPHPC Project to develop a code of ethics for public health in Canada, but that work may well be needed in the future to contribute to greater clarity about the roles of leadership in public health. To be clear, as future work builds on this Project, it is essential to separate the discourses of values and ethics to keep both explicit and open to criticism.

5.4 Engagement

The very definition of public health leadership calls for competence in engagement of people and groups as this is necessary to "influence, motivate, and enable" them to achieve success in goals leading to better health. "Inspiring, mentoring, coaching" and recognizing work in others also requires forms of engagement. "Empowerment" is especially linked to processes of engagement. The literature review suggested that leaders have "the ability to build and communicate a vision; the ability to collaborate and lead interprofessional teams; [and] strategic flexibility and ability to manoeuvre among the political and legal contexts of the public health and health care systems" (Appendix A, p. 9), all of which suggest the use of skills in engagement. It could be argued that the fourth and final ability in that list, "to self-renew, learn and face challenges with spirituality and humour," is also unlikely to be accomplished in isolation.

If we look at the "top 5" behaviours of a leader identified in the survey (i.e., serves as a catalyst; is accountable; demonstrates drive, motivation, forward thinking; models and mentors; engenders rapport and trust) all imply relationships, especially the last two. Similarly, the skills (i.e., communicates clearly; has systems/critical thinking skills; uses evidence-informed decision making; supports, empowers, build capacity; builds consensus) imply interaction and the first and last two are essential to engagement.

Successful engagement involves relationship building. Engagement of stakeholders (i.e., those with a stake in the policy or program) is often referred to as participation and public participation when non-professionals are the key stakeholder. Engagement is cited as a key component of population health promotion (Duffy et al., 2013; Thurston et al., 2005a), knowledge exchange between researchers and users (Smits & Denis, 2014) and policy development (Smits et al., 2014; Thurston et al., 2005a), and it is posited to play a key role in organizational change (Laker et al., 2014). Not surprisingly, given the link to health promotion, engagement is linked to empowerment and both are considered necessary for effective reduction of health inequities (Wallerstein, 2006). Engagement and participation are also often linked to sustainability of initiatives (Berkeley & Springett, 2006; Duffy et al., 2013). Therefore, some public health leaders must have expertise in engaging those who are experiencing health inequities in order to successfully develop strategies to reduce those inequities. Others, however, must have expertise in engaging those in their organization who can facilitate organizational change to make the processes of public health leadership a priority. Relationship-building time may be seen as "just sitting around" in the eyes of function-driven health sector employees (Clegg & McNulty, 2002) but the time invested in building relationships is vital to success in public health practice.

The key aspect of engagement is building positive relationships and an environment where positive relationships are valued. The words that came up frequently in the literature review were: trust, mutual respect, authenticity, transparency, and safety (Appendix A). A relational theory of

leadership "views leadership as occurring in relational dynamics throughout the organization" (Uhl-Bien, 2011). There is an important distinction between the heroic and individualistic notions of leadership and the relational. Rather than focus on the individual characteristics of the people involved (the leaders and the followers), relational theories of leadership focus on how shared meaning is reached and the communication processes involved, the language used, the exchanges between people, and how these are impacted by contexts (Uhl-Bien, 2011).

In relational models of leadership, organizational roles do not define how people *relate* to each other. An engaging or relational model of leadership presents at least six challenges to be overcome in promoting leadership competencies for public health practice:

1. Health systems have hierarchical and entrenched management and administrative processes that conflict with this approach (Fulop & Day, 2010); for public health to adopt relational or engaged leadership means further isolating itself from the rest of the health sector, the acute care system in particular.
2. The current industry of leadership development courses and training focuses on building individual traits and styles (Fulop et al., 2010); most managers and leaders have been trained in this model.
3. Few management theorists have taken up the intersections of the determinants of health and creation of inequalities (Maréchal, Linstead, & Munroe, 2013); change will be an uphill effort.
4. The field of organizational studies and organizational change has not made the intersections of the determinants of health important (particularly race, gender, ethnicity, class) (Fulop et al., 2010); innovation will be required on the part of the public health sector and public health researchers.
5. The concept of power is most often treated in management and leadership literature as power over (manager – staff) or power to define meaning (Linstead, 1997); critical social theory has a much more nuanced understanding of power that may not currently be well understood by public health leaders.
6. Relational practice (engagement) takes time and is in conflict with management-by-objectives, and task oriented management models, but is essential to trust. Some people may think that building relationships is inefficient use of time; given the limited time resources that all health professionals experience, a new way of thinking about priorities will be required.

Participation or engagement in decision-making processes is widely believed to reduce resistance to change in organizations (Linstead, 1997). Strategies for engagement are varied and include one-off consultations, fully developed partnerships, round tables, citizen juries, advisory groups, or councils (Thurston et al., 2005a) and need to be developed for a specific context and culture (Thurston et al., 2005a; Wallerstein, 2006). Engagement and empowerment are characterized by relationships where meaningful and respectful dialogue occurs, even if it is for a short time (Wallerstein, 2006). What is clear, however, is that building new relationships is a process that takes time unless they are built on existing social networks. While some may worry that short-term partnerships are therefore a risk in terms of the cost to the public health organization relative to benefits, an evaluation by Clegg and McNulty (2002) found evidence that capacity for partnership around reduction of inequities remained in the community as resource people moved from project to project and was actually increased by

a successful partnership with the health sector, thus providing sustainability.

Arnstein's ladder of participation (Arnstein, 1969) is one of the most familiar models describing approaches to engaging the public or others in an organization's project. There is increasing evidence that using strategies to manipulate agendas, improve peoples' attitudes or practices, or provide them with information (the first three steps of the ladder) are unacceptable (Thurston, Vollman, Meadows, & Rutherford, 2005b); however, how full and meaningful engagement is characterized has to be variable and contextual (Quantz & Thurston, 2006; Scott & Thurston, 2004; Thurston et al., 2005a; Thurston et al., 2005b). People generally know when engagement is not genuine; for instance, Australian Aboriginal people in North Queensland identified a number of characteristic of "bad engagement" that were categorized as tokenistic behaviour, racism, poor communication, and not knowing the community (Duffy et al., 2013, p. 5).

Others have identified potential structural barriers to the internal professional engagement needed to promote public health leadership competencies, for instance:

- Professional identity – i.e., the body of knowledge that becomes part of individual personal identity
- Professional status – i.e., at what level in the overall hierarchy of health professions one's profession lies
- Professional discretion and accountability – i.e., discretion and accountability that arise due to one's professional role (Hudson, 2002, cited in Berkeley et al., 2006).

Interdisciplinary engagement, therefore, may call for a level of cultural competency that is often associated with reducing inequities (Oelke, Thurston, & Arthur, 2013). Public health leaders will need to create safe spaces for each other to explore leadership in an empowering manner.

5.5 Emotional Intelligence

In the focus group webinars, participants suggested adding "self-awareness, emotional intelligence (EI), and practice of ongoing self-reflection" to knowledge, skills and behaviours as personal or individual level qualities needed by leaders. EI may be defined as the ability to use information about emotion to manage situations and stress. It has several dimensions that include self-awareness, management of one's emotions or self-control, and ability to make others feel positively (Armstrong, Galligan & Critchley, 2011). Thus, EI was not entirely omitted from the top five skills and behaviours by the survey participants who included "clear communication, empowering others, building consensus, and engendering rapport and trust" among those items selected in the "top 5". It may be that the knowledge of EI as an encompassing characteristic is not as strong as it could be in the field. In a 2012 review of the literature on EI, Sadri recommends training in EI as part of leadership development. In support of his argument for EI training Sadri quotes Conger who said that the issue is not "whether leaders are born or made. They are born *and* made" (Sadri, 2012, p. 535).

Sadri (2012) quotes Goleman's (1995) definition: "[EI consists of] abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope" (p. 537). EI is therefore close to a concept popular in health promotion, that is, resilience. Resilience is the ability to manage stressful life events so that the

consequences are at least short-term, even minimal. Armstrong et al. (2011) found that high scores on a measure of EI were associated with lower distress following life events.

Goleman (cited by Sadri, 2012, p.537) identified five skill areas that constitute EI and may be learned. Of these, three relate to personal qualities:

- Self-Awareness ("knowing one's internal states, preferences, resources, and intuitions");
- Self-Regulation ("managing one's internal states, impulses, and resources"); and
- Motivation ("emotional tendencies that guide or facilitate reaching goals").

In addition, Goleman identified two social qualities of EI:

- Empathy ("Awareness of others' feelings, needs, and concerns"); and
- Social Skills ("Adeptness at inducing desirable responses in others").

Similarly, in an article on developing leadership capability, Mayer, Salovey and Caruso (2000, cited by Sadri, 2012, p. 537) define EI as "the capacity to reason about emotions, to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth." All of these abilities are important to building relationships and engaging with diverse groups internal and external to the organization.

Chrobot-Mason and Leslie (2012) tie EI to another important concept in public health leadership introduced earlier - cultural competence and ability to create a workplace that is inclusive and where conflict is productive. In some ways, EI and critical thinking could be seen as sources of power to manipulate and control. This would be against the values of engagement and empowerment. Some philosophers of power and science have agreed that no universal norms exist, either ethical or moral and, as a consequence, scientists must be explicit about their normative assumptions.

5.6 Gender

As we noted in the literature review, gender was almost completely absent in the leadership literature; there is a need to better understand the gendered nature of public health to be successful as leaders.

Gender, as defined by the Institute of Gender and Health is:

> *…the array of socially constructed roles and relationships, personality traits, attitudes, behaviours, values, relative power, and influence that society ascribes to women and men. Gender is often referred to in binary terms (i.e., feminine or masculine); however, there are many locations on the gender continuum.* (Institute for Gender and Health, 2009)

Fulop and Linstead (2009) reported that most theories of leadership have ignored gender. *How Women Can Meet the Mark in Meetings*, a recent article in the Globe and Mail business section, reported on research that men and women are "missing each other" in meetings (Schachter, 2014, p. B5). The article went on to recommend that women adopt the behaviours observed in men in order to succeed in getting support for their agendas. This advice may provide a temporary solution for women currently trying to make a career, but what does it mean in the long term?

In examining our samples for both the on-line survey and the focus group webinars, we noted that women outnumber men by approximately 3:1. Considering disciplines, in public health nursing women far outnumber men; conversely, in public health inspection, men outnumber women.

The gendered nature of organizations has been a research topic for decades, but it has never received serious attention in terms of organizational change. If we are to promote leadership in public health competencies and a majority of the front-line staff in public health are women, what does this mean in terms of organizational change, engagement and reduction of inequities? Does creating cultural safety mean finding new ways to "do business" in public health? It is beyond the scope of this Environmental Scan to answer these questions, but we draw attention to the issues.

5.7 Conflation of Management and Leadership

For the purposes of this report, we define the terms *management* and *leadership* as follows, adapted from the work of Thomond (2014):

Management is an organizational construct; it is vested in a position within a governance structure and carries out the mechanics of an organization to coordinate and support the actions of people to accomplish tasks, goals and objectives. Managers are appointed to their positions and focus on the short to medium term, for the most part.

Leadership is an influence construct; it is not invested in a position but is focused on defining a future state (an aspirational vision) and enlisting the aid and support of others to undertake a journey to fulfil the vision. Leaders are "anointed" not appointed, and often take a long term view.

Leadership and management are different but related functions. Both are needed. Sometimes managers also fulfil a leadership role, but at other times leaders are not in positions of authority. In today's complex organizations, leadership is needed at every level of an organization regardless of position on the organizational chart.

While the debate on the differences between management and leadership continues, much of the literature we reviewed does not clearly distinguish leaders from managers. Often, authors refer to leaders as people being appointed to leading roles in organizations (read: senior management). As long as leaders are conflated with managers, the traditional mode of thinking around leadership will prevail. Conflation of these terms is not favouring the development, recognition and rewarding of leadership competencies throughout the system. It may, in fact, be a detriment. Analyzing the discourse around leader versus manager may contribute to a greater understanding of why the terms are conflated; for instance, whether it confers higher status to be called a leader rather than a manager.

5.8 Competition within the Health System

We heard from our focus group participants that there is competition for funding in the health system between the acute care sector and the public health sector, with the acute care sector commanding the bulk of provincial/ territorial health budgets rather than public and community health, primary care, or long term care. According to our results, this disparity is

demoralizing to those that work in the public health sector, particularly as demands on it are ever increasing while budgets are, at best, remaining static.

In investigating this perception of funding injustice, we learned that Canada's health care system was originally designed post-WWII during a rapid industrialization period when the Canadian economy shifted from an agrarian focus to being focused more on manufacturing, particularly in Ontario and Quebec where the largest numbers of Canadians resided. Because of this changing context, many families were drawn into urban centres for employment. In that period of time, the dominant population health needs were treatment of acute illness, injury and communicable diseases that were considered to be best managed within hospitals. Despite the shift in population health needs to current concerns with lifestyle-related chronic diseases, the hospital-centred model of health service delivery that concentrates on acute care has continued into the present day. Canadian Institute for Health Information data confirm that most of health budgets today go to acute care services (hospitals 30%; drugs 16%; physicians 15%) with approximately 5% dedicated to public health (CIHI, 2013). Thus, the competition for funding is very real, and the public health sector is obviously losing. As Simpson (2012) and Lazar, Forest, Lavis and Church (2013) have noted, the current paradigms informing solutions are inadequate to the task. Creative leadership is required.

Further, we learned that there is intraprofessional conflict; professionals working in acute care consider those working in public health to have a lower status than those that work in health care institutions. Institutions such as hospitals and university-aligned tertiary care centres enjoy a higher public profile in all discourses around the health system. While many public health professionals have past experience in and knowledge about the acute care or institutional sector by virtue of their education and training, those in the acute care sector have no requirement to understand community work. In addition, community-based disease and injury prevention and health promotion have lower status in the eyes of the public and other professionals in health care when compared to the urgency of acute illness that requires immediate intervention and hospitalization. Focus group participants noted that people working in the acute care system sometimes use dismissive language around community and public health work. As identified in the section on engagement, such attitudes can damage partnerships when health sector people are required to work with community organizations and public health professionals. Some participants also noted that the perceived lack of value of leadership in public health could be a barrier to adopting public health leadership competencies (Appendix D).

Leadership will be needed to overcome feelings of prejudice against public health that are stirred by the financially driven, discursive, and intraprofessional conflicts. As Krysan (2000) points out in her review of prejudice, politics and public opinion, "The emotions that are experienced are closely tied up with one's social identity - one's connection to a group - and the extent to which a particular action is threatening to that group" (p. 155). For public health leaders to assume a prominent place in Canada's health system, they need to overcome challenges related to the historical privilege granted to acute care, hospitals and specialists, and this may stir up emotions among members of those other sectors that need to be considered in doing so.

5.9 Context

As we learned from the results of both the on-line survey and the focus group webinars, organization and macro-level enablers and barriers contribute to an important context for leadership enactment in public health organizations in Canada. Certainly the "top 5" external enablers establish that the employing organization can be a powerful enabler if it "values leadership at all levels, and acknowledges, recognizes and takes advantage of its formal and informal leaders." Reward and recognition are powerful motivators for people and teams to accomplish objectives and contribute to organizational change and success (Cacioppe, 1999). Further, survey respondents and focus group participants underscored the importance of trust and communication as well as empowerment of the leadership vision by providing support in the form of resources and clear lines of accountability. Unclear missions and misalignment of goals, objectives and incentives are deterrents to leadership practice in public health organizations. Ongoing support for leadership development in the forms of mentorship, professional development and networking support enable professionals with potential to develop the skills and acquire the experience to become effective leaders. On the other hand, if there is no dedicated time for leadership in the form of training, or there is a lack of support for evidence-informed practice and barriers to the uptake of evidence, the organization then becomes an obstacle to the performance of leadership activities, regardless of the skills of employees.

Adequate funding and productive competition were cited as important aspects to creating a positive public health culture. If there was not sustainable funding to support community engagement and networking – critical components of success in public health action – or there was overt competition between clinical care and public health for funds, then these competitive and destructive forces affected the organizational culture and limited leadership action. There is no question that public health is a small part of the larger health sector, commanding about 5% of the total health budget in most provinces. This lesser financial position puts pressure on the public health sector to maintain adequate infrastructure, technology, and retain programs and efforts that impact population health. The low visibility of public health in the face of its importance to the health of Canadians and to the reduction of health inequity, and the lack of supportive public policy, are demoralizing to the public health workforce and have an impact on leadership practice.

In response to an assessment of leadership theories that did not take context into account, Porter and McLaughlin (2006) conducted a systematic literature review of both conceptual and empirical articles on leadership and organizational context. They found seven components of context that influenced leadership: culture and climate; goals and purposes; people and composition; processes, state or condition (e.g., resource availability, stability or crisis); structure; and time. Most of these components are mentioned in our literature review and in the results of the on-line survey and focus group webinars as having either positive or negative effects on leadership. In order to improve our understanding of leadership practice in public health in Canada, the Delphi process to be undertaken as the next component of the LCPHPC Project might include a more direct and concerted examination of organizational context as a crucial object of interest, rather than an afterthought.

5.10 Consolidating Frameworks

As the Environmental Scan progressed, we found that several "frameworks" were being introduced, each with multiple perspectives, and each with conflicting terminology. Therefore, we decided to clarify our language so as to avoid confusion. The term we chose for the way in which the original LCPHPC Project proposal was worded is "organizing *framework* for the project". During our research, we uncovered several different frameworks in the literature that organized leadership competencies in different ways; we call these "organizing *templates* for competencies". We discussed in the Literature Review the several contradictory models and theories of leadership that assist in the conceptualization of competencies; these we labelled "organizing *models* for leadership".

5.10.1 Organizing framework for the project

The framework for the LCPHPC Project provided to the Academic Partner for the Environmental Scan specified a study of the enablers/facilitators, barriers and organizational readiness for public health leadership practice in Canada. As a result, the literature review, the on-line survey and the focus group webinars were organized in this manner. That framework turned out to be very problematic for many participants. The opinions from participants around changing language were consistent with the need for articulation of the public health lens; for instance, moving away from the term "enabling" to "empower", and away from the associations that enabling has with individual therapy in the addictions field and individual change in the health promotion field.

As already discussed, the leadership literature is not based on relational theories. What was left out of the framework was the role of affect and emotion on how a leader thinks and behaves. As Strobeck and Clore (2007) point out, psychological theory has largely treated cognition and emotion as though they were separate. They argue that cognition and emotion are in fact highly interdependent, which supports the items that the focus group participants recommended be included (i.e., self-awareness, emotional intelligence, self-reflection, passion, confidence and assertiveness (Appendix D, p. 7)).

The Academic Partner team also struggled to utilize the organizing framework provided by the LCPHPC Project proponents when analyzing the data in the Environmental Scan, particularly the rich data from the focus groups. Participants' comments and narratives did not "fit" the organizing framework very well and the team was compelled to examine alternative leadership competency frameworks.

5.10.2 Organizing template for competencies

The leadership competencies for public health practice are conceived as complementary to previously acquired competencies. First the competencies of each discipline are acquired upon graduation from the respective professional programs and at entry to practice. Then, as individuals enter public health practice, they acquire the core competencies for public health, and add to these their relevant discipline-specific competencies. At each step, knowledge and skill are enhanced, and values from each discipline are extended to include the values of public and population health. The leadership competencies are to be wrapped around each of these other competencies, and a complementary set of values about leadership practice is merged with previously acquired public health values. Therefore, the leadership competencies for public health practice in Canada ought not to restate any competencies included in the

previously acquired core or discipline-specific competencies for public health.

This Environmental Scan has highlighted the need for a different and more modern template for organizing leadership competencies for public health practice in Canada. The knowledge-skills-behaviours approach is not adequate for capturing the complexity that is involved in public health leadership practice. While the enablers-barriers approach allowed us to uncover challenges at the individual, organizational and system levels, these neither addressed the processes of leadership nor the desired outcomes of public health leadership and how these interact to facilitate organizational change and contribute to greater success (e.g., effectiveness, efficiency, public satisfaction, reduction of health inequity) in all aspects of the health system, including the acute care sector. We have identified that engagement (including collaboration, partnerships, coalitions, consultation) needs to be incorporated as a key process in public health leadership.

What came out of the Environmental Scan's three phases was that certain values were expected in a leader in addition to supporting the values inherent in the public health lens; that is, leaders were expected to be self-aware, trustworthy, confident and compassionate, among other attributes. A template for public health competencies must therefore go beyond the knowledge, skills and behaviours characterization to include an affective domain (some captured under the label of emotional intelligence) and a cognitive domain that would encompass competency in assessing the interplay between personal and external context (critical social theory), including cultural competencies that incorporate the intersections of social institutions such as gender, religion, ethnicity and politics. The role of advocacy for public health cannot be downplayed in light of the potential impact of competition on organizational and institutional change, and the need to enact a new paradigm that recognizes the differences between system management and leadership.

Some efforts at identifying leadership competencies may have contributed to conceptual confusion. The National Public Health Leadership Network in the US, for instance, developed a long list of competencies under 4 broad headings: core transformational; political; transorganizational; and team-building. There are 80 items within these 4 categories (Wright et al., 2000, p. 1205-1206). It is foreseeable that some of the competencies may conflict; for instance, under Core Transformational Competencies I.B.5 one is asked to "Communicate effectively to translate understanding of mission and vision into action" and under Team Building Competencies IV.B.1 to "Facilitate development of shared mission, vision, and value statements." If what the team sees as a visionary mission is not in keeping with the central organization's mission for public health, the leader would be giving conflicting messages. It can also be argued that at least ten of the National Public Health Leadership Network competencies highlight special skills that might be needed within a team in order to carry out a particular project; for instance, under Political Competencies II.A.5 "Develop, implement, and evaluate advocacy, community education, and social marketing strategies" each of these could each be identified as an area of specialization that not every leader would need. Another seven are closer to management competencies (e.g., IV.B.8: "Create incentives and reward and celebrate accomplishments"; "II.B.2: Guide and mediate investigation and resolution of acute public health crises"; and III.A.3: "Develop system structures utilizing knowledge of organizational learning, development, behaviour, and culture").

Obviously, some confusion exists around a framework for presenting competencies for public health leadership, confusion that is supported by existing literature. If competencies are the "knowledge, skills and abilities demonstrated by members of an organization" (Joint Task Group on Public Health Human Resources, 2005, p.24), then there are other competencies (e.g., affective and cognitive domains) needed by public health *leaders* to meet the goals of public health.

The knowledge that the literature identified may be considered basic knowledge for all of the disciplines in public health, as individuals move from competency in their own discipline to that of a public health specialist. Competencies for *leadership* must build upon the foundational competencies, but are different. Similarly management competencies are different from leadership competencies, though they may build upon each other and managers can certainly be leaders. Managers in public health, at the very least, need to be competent in encouraging and supporting leaders throughout their workforce.

In examining several leadership competency frameworks, we discovered that the Canadian *LEADS in a Caring Environment* capabilities framework (CCHL, 2013) resonated very well with the results of our Environmental Scan. The LEADS framework is widely used in the health system across Canada as a leadership development tool and therefore has the added advantage of not marginalizing public health once again by introducing a unique framework. A summary of the framework, *LEADS Key Points* (CCHL, 2010), is located in Appendix E.

We compared the "top 5" knowledge, skills and behaviours selected in the survey to the LEADS framework. As can be seen in Table 7, all of the LEADS leadership capabilities were reasonably represented in the top five.

Although not explicit, the LEADS "demonstrate systems/critical thinking" can be considered as a foundation of the "top 5" knowledge areas. The LEADS "encourage and support innovation" can be captured in the "top 5" skills and behaviours although not explicitly worded in similar terms. Interestingly, statements from the scoping literature review that were included in the on-line survey but did not survive to the "top 5" are included among the LEADS capabilities: demonstrates innovation and creativity; advocates for and guides change. Focus group participants also suggested additions to the "top 5" that are captured in the LEADS capabilities: practice ongoing self-reflection; self-awareness.

Of note, the organizing framework for the LCPHPC Project did not address the outcomes of public health leadership; this gap reveals a weakness in the framework provided for the Environmental Scan. Nevertheless, the Academic Partner Team did examine attributes at the meso and macro environments that enable and inhibit leadership, a strength of this approach.

In summary, the LEADS framework (CCHL, 2013) resonates very well with the results of the literature review, the on-line survey and the focus group webinars. Therefore, we suggest that it be used as a guiding framework for describing the leadership competencies for public health practice in Canada. Since this is a widely used model in Canadian health care settings, it will allow professionals in the public health sector to interact more meaningfully with those in other health sectors (e.g., acute care, long term care, primary care) rather than setting themselves apart by using a different model. After all, leadership is discipline-neutral and the outcomes expected of leaders are not defined by the field, but by how people and teams interact in doing work, the workplace culture and by the degree of trust, motivation and communication a leader generates.

Table 7: Comparison of "top 5" summary statement competencies and LEADS capabilities

LEADS Health Leadership Capabilities	TOP 5 Knowledge, Skills and Behaviour for Public Health														
	K1. Population and public health	K2. Determinants of health	K3. Values and ethics	K4. Health demographics and outcomes	K5. Inequality, inequity and social justice	S1. Communicates clearly and transparently	S2. Supports, empowers, builds capacity	S3. Has systems/critical thinking skills	S4. Builds consensus, mobilizes, has negotiation/mediation skills	S5. Uses evidence-informed decision-making	B1. Serves as a catalyst, builds partnerships, coalitions and capacity, and shares leadership	B2. Is accountable	B3. Demonstrates drive, motivation, forward thinking	B4. Engenders rapport and trust	B5. Models and mentors
Lead Self • Self aware • Manages self • Develops self • Demonstrates character: personal integrity, emotional resiliency			✓							✓		✓		✓	
Engage Others • Foster development of others • Contribute to the creation of healthy organizations • Communicate effectively • Build effective teams						✓	✓		✓	✓	✓	✓		✓	✓
Achieve Results • Set direction • Strategically align decisions with vision, values, evidence • Take action to implement decisions • Assess and evaluate	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		
Develop Coalitions • Purposefully build partnerships and networks to create results • Demonstrate a commitment to customers and service • Mobilize knowledge • Navigate socio-political environments	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Systems Transformation • Demonstrate systems/critical thinking • Encourage and support innovation • Orient themselves strategically to the future • Champion and orchestrate change	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		

5.10.3 Organizing model for leadership

Rather than promote one theory of leadership over another, we instead prefer to describe the approach that seems best suited to public health and the Canadian context. Having reviewed the literature, we noted that there is "a strong drive toward transformational leadership and away from the trait (hero, great man) approaches common in the past" (Appendix A, p. 27). It should be noted that the transformational model has been critiqued for promoting the opposite in public health values (e.g., manipulation, leadership by using one's influence) (Bass & Steidlmeier, 1999). However, any model will undergo adaptation and development and public health can contribute to this research as it moves ahead in shifting how leadership is practised.

5.11 Final Thought

To reiterate from the discussion in the literature review report (Appendix A, p. 22-23):

Three goals must be met to develop stronger leadership: 1) to create a common framework that defines what modern leadership in a complex health system is and establishes a common language for individuals across organizational boundaries or professions; 2) to develop more leaders who embrace those capabilities; and 3) to engage Canadian health organizations (delivery, professional, voluntary and academic) in a concentrated effort to create learning opportunities for people and organizations; to implement succession planning and performance management; and to consolidate resources for leadership development and recruitment. (Dickson 2007, p.1)

6. Conclusion

The three research phases in the Environmental Scan revealed very strong consensus in general about public health leadership competencies. There may be differences in which specific types of knowledge the seven disciplines engaged in the LCPHPC Project place in the foreground but there was evidence from the literature that interdisciplinary knowledge was important, and from the survey and webinars that it was valued. To provide leadership in public health, results from the Environmental Scan tell us that leaders must know about the field of public health itself: population and public health (determinants of health, health demographics and outcomes); public health values; ethics of public health; and inequalities, inequities, and social justice. This knowledge is embraced not only in the Core Competencies for Public Health but also in the Discipline-Specific Competencies of the seven disciplines involved in the LCPHPC Project.

Other important observations can be made when synthesizing the results across the research phases. First, there was congruence in what the participants in the survey and webinars said and what the literature stated in terms of skills and behaviours; second, individual leaders in public health usually work in a context where there are several layers of influence over what they can and cannot do; third, since leadership can occur at any level of the organization (at the senior or mid-management level, in front-line staff) the goals of leadership may differ but there are some common expectations about how leaders will think and behave; fourth, barriers and enablers are often presented as opposites, which though not discussed explicitly allowed us to synthesize what was said.

There is strong overlap between what the literature says leadership entails and what the participants said was required of public health leaders. The literature identified skills and behaviours that are required for team building both within the public health organization and in developing partnerships with other organizations. Different skills are needed for some aspects of these two processes, however, all of the "top 5" skills selected in the survey are required for this work and the enablers also serve this focus. Thus, at a minimum these are competencies that public health leaders must have:

- good communication skills (clarity, transparency and accountability, interdisciplinary) that will engender trust and rapport;
- supporting, empowering and capacity building; modelling and mentoring; drive, motivation and forward thinking;
- critical thinking;
- building consensus; and
- evidence-informed decision making.

The survey participants identified that in order to do (enable) this work of team and partnership building a leader had to be responsive and accessible, which is closely linked to the time issue that is imposed by organizational constraints such as lack of staffing, lack of recognition of the dedicated time needed for leadership work, lack of mentoring and educational opportunities. In addition, leadership is difficult when many staff are burned out or some are simply oppositional and do not want change.

Individual leaders in public health usually work in a context where there are several layers of influence over what they can and cannot do. If we think of leaders operating at different levels of the system, some of the skills and behaviours not included in the "top 5" of the survey may take on more importance. To enable leadership to flourish, leaders must have the ability to adapt to a changing system and to be innovative and creative. If they are expected to do both, the adaptation will not simply represent maintaining the status quo, but will show resistance to marginalizing the public health agenda, and attention to change strategies and other mechanisms to ensure public health action is successful in reducing inequities. To achieve this adaptation and innovation requires critical thinking skills and evidence-informed decision making, which must go hand-in-hand. A level of political competence is also implied because a leader should not jeopardize the future of the team or the goals of public health.

Since leadership can occur at any level of the organization (at the senior or mid-management level, in front-line staff) the goals of leadership may differ but there are some common expectations about how leaders will think and behave. Leadership is going to be needed at senior levels to ensure that organizations support the development of public health leadership competencies. We identified the "top 5" enablers of leadership in the public health goal of reducing disparity and inequity. The competition between acute clinical care and public health in terms of status and funding is perceived as a real barrier to the work. However, leaders of programs and those 'on the ground' need not be stopped entirely by these systemic factors if there is organizational understanding and support for the work. Thus an organizational culture that encourages a learning environment and thinking 'outside of the box' and supports efforts that help everyone learn more about effective practice is important. Working as a team or in partnership is also important to prevent burn-out, recognize each other's contributions, and maximize resources.

7. Recommendations

A. Defining public health practice in Canada:

1. PHAC should amend its definition of leadership in public health to include the desired outcomes of public health leadership (i.e., equity, social justice, engagement).

B. Regarding the competencies:

1. We recommend adapting the LEADS framework (CCHL, 2013) for the development of public health leadership competencies in Canada. The use of this framework will encourage a common language across the health sector, facilitate communication, and bring people from across the system together in learning opportunities, rather than separating them out by either discipline or work setting. By finding common ground, competition and conflict may be minimized over time.
2. The competencies should be developed for novice, intermediate and advanced levels (staging), where the advanced can become the mentors of beginning leaders. Movement along a trajectory from beginner to advanced levels develops with time, experience, ongoing professional education, and mentoring. A learning organization will have leaders at all stages and in all levels of the organization. In staging the competencies, examples from practice ought to be used to guide interpretation and uptake.
3. A glossary of terms used must be included in the competency statements document.
4. Core competencies and discipline-specific competencies ought not to be repeated in the leadership competency statements.
5. To prevent or minimize conflation, the terms management and leadership must be clearly defined and specified in the competency statements.
6. The Delphi process (i.e., next phase of the LCPHPC Project) ought to include a more direct and concerted examination of organizational culture as a crucial object of interest.

C. Regarding leadership:

1. Rather than using a leadership theory *per se*, use rich descriptions of positive leadership qualities, processes and desired outcomes.
2. Ensure that all knowledge exchange about the LCPHPC Project emphasize that leadership is not management and can be exhibited by both individuals and teams at all levels of an organization (i.e., front-line staff to CEO).

D. Regarding the implementation of competencies:

1. Use the ORCA tool to assess organizational readiness for implementation.
2. Use change theory to create interventions that foster uptake of the competencies.
3. In promoting uptake of the competencies show how they can be integrated into existing supervisory and other management evaluative processes (e.g., job descriptions, annual reviews).

8. RECOMMENDATIONS FOR THE DEVELOPMENT OF LEADERSHIP COMPETENCIES STATEMENTS

The Academic Partner Team has outlined draft statements to be considered for Leadership Competencies for Public Health Practice in Canada. The development of these statements in the next component of the LCPHPC Project, the Dephi process, need to take into account the previously stated recommendations regarding the competencies (i.e., adapting the LEADS framework, staging, organizational context, etc.).

PERSONAL QUALITIES

Public health leaders come to the leadership role with personal qualities that include cognitive and affective skills.

A. Public health leaders possess foundational knowledge and are critical and creative thinkers [cognitive skills]:

1. Abide by the ethical codes of their respective disciplines, and also to the ethics relevant to public health practice
2. Demonstrate cultural awareness and awareness of the implications of politics, ethnicity, gender, age, socioeconomic status, and religion on health beliefs and behaviours
3. Are knowledgeable about communications and operational technology and are fluent in the language of the multiple professions with whom they interact
4. Have credibility; understand the public health sector organization and regulatory systems, and how to exercise leadership within it
5. Demonstrate evidence-informed decision making
6. Understand policy making processes and public health's role in political influence
7. Understand knowledge translation and how to guide change
8. Demonstrate an ongoing willingness to learn; self-develop
9. Have systems/critical thinking skills
10. Demonstrate innovation and creativity
11. Understand the different styles/expectations of communication across professions

B. Public health leaders have integrity [affective skills]:

1. Are accountable
2. Demonstrate emotional intelligence
3. Engender rapport and trust
4. Are empowering; enable others by providing strong, unwavering support
5. Are self-aware and reflective; reflexivity and flexibility in response to criticism
6. Are responsive and accessible

LEADERSHIP ACTIONS

Public health leaders mobilize processes and take action through investing in others, building partnerships, and communicating vision.

A. Public health leaders invest in others.

1. Support; empower; build capacity; model and mentor
2. Promote a healthy workplace culture; share power horizontally; use a democratic decision-making style

B. Public health leaders build partnerships internally and externally.

1. Are ambassadors to public health and exemplars of quality evidence-informed public health practice
2. Build consensus, mobilize, have negotiation/mediation skills; recognise contributions of others
3. Communicate clearly and transparently up and down the organizational hierarchy
4. Are well-connected, have political competence
5. Act to foster engagement: serve as a catalyst, build partnerships, coalitions and capacity, and share leadership
6. Garner support for and momentum to a public health vision of upstream solutions to health issues
7. Contribute to awareness, visibility and cross disciplinary understanding of the contribution of public health practice
8. Leverage partnerships to broaden the scope and impact of public health practice (i.e., individual immunizations vs. population based interventions)

C. Public health leaders communicate a vision for public health.

1. Share a personal vision that is explicit, clear and compelling
2. Use evidence-informed decision-making
3. Advocate for and guide change; demonstrate drive, motivation, forward thinking
4. Envision and adapt to a rapidly changing healthcare system
5. Recognize and seize leadership opportunities
6. Champion public health principles, actions and interventions
7. Define and evaluate program effectiveness and success in terms of population health (vs. business models)

CONTEXT FOR LEADERSHIP

Public health leaders work in organizational, community and health system contexts. These contexts can enable or hinder leadership development and leadership outcomes. The enablers and barriers identified in the “top 5” by the Environmental Scan’s survey respondents and the focus group participants were first reworded so that the reverse of the term “barriers” were identified. We then grouped them to represent the two roles: enablers of leadership development and enablers of leadership outcomes. This is an important distinction because leadership in public health practice can still be developed even though systemic factors may limit the outcomes that can be achieved by leaders. For instance, it may take several years to achieve a legislative change to support population health (the smoking bans are an

obvious example). However, leaders can carry on with strategic activities and achieve intermediate and enabling outcomes that are realistic in moving towards a desired goal or outcome. Nevertheless, leadership does not operate in a vacuum; the context wherein leadership is practised is critically important to achieving desired outcomes.

Enabling Leadership Development

Contextual factors that allow people to develop leadership skills include:

1. Organizations that value leadership at all levels and acknowledge, recognize, and take advantage of its formal and informal leaders;
2. Organizations that foster trust through ongoing and transparent communication;
3. Organizations that support mentorship and succession planning; professional development and networking support;
4. Organizational empowerment of leadership vision; strategic and tactical support for the vision (e.g., built-in support for vision in organizational planning and performance indicators);
5. Organizations that allow dedicated time for leadership (including time for training and development);
6. Organizations that embrace a culture of improvement, organizational support for evidence-informed practice and that lessen barriers to evidence uptake;
7. Organizational structures that align with professional values and priorities, have a clear mission; alignment of goals, objectives, and incentives with that mission; and
8. Organizations that encourage high visibility of public health practitioners.

Enabling Leadership Outcomes

Contextual factors that allow leaders to achieve desired outcomes include:

1. Sustainable funding at system and community levels to maintain community engagement and population health programs;
2. Acknowledging and addressing the issues of competition between clinical care and the public health mandate, between curative and preventative activities; and
3. Sufficient funding of public health infrastructure, including technology.

The outcomes of leadership development are similarly envisioned as different from the outcomes that the work of leaders will accomplish. The more that leadership in public health is developed, the more likely it is that the collaborations, passionate efforts, and innovative solutions needed to address current (e.g., homelessness, interpersonal violence) and future (e.g., climate change, natural disasters) public health challenges will be achieved.

More public health leaders throughout public health systems in Canada, as envisioned in the Leadership Competencies for Public Health Practice in Canada Project, will support the following outcomes: better awareness and visibility of the special contributions of public health; enhanced retention and recruitment and healthier public health workplaces; increased collaboration across disciplines to facilitate improved efficiency and effectiveness will achieve public health goals and reduce inequity; public health workforce development in Canada will be supported; and leadership competencies will be taught in university public health education programs.

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APPENDICES

A. Literature Review Report

B. Organizational Readiness Report

C. On-line Survey Report

D. Focus Group Webinars Report

E. LEADS Framework

APPENDIX A.

Literature Review Report

LEADERSHIP COMPETENCIES FOR PUBLIC HEALTH PRACTICE IN CANADA

LITERATURE REVIEW

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Community Health Nurses of Canada
Community Health Nurses of Canada (CHNC) is a national organization for community health registered nurses to advance practice and to improve the health of Canadians. CHNC represents the voices of community health nurses; advances practice excellence; creates opportunities for partnerships across sectors and networks; strengthens community health nursing leadership; advocates for healthy public policy to address social and environmental determinants of health; and promotes a publicly funded, not for profit system for (community) health. CHNC is an associate member of the Canadian Nurses Association (CNA).

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Leadership Competencies for Public Health Practice in Canada

Literature Review

Table of Contents

1. Background 1
2. Method 3
   - 2.1 Preliminary Work: Mapping Exercise 3
   - 2.2 Identification of Scholarly and Grey Literature 4
   - 2.3 Charting of Studies 4
3. Results of the Literature Search 5
   - 3.1 Composition of Literature 5
   - 3.2 Description of the Public Health Literature 6
   - 3.3 The Terminology Debate 7
4. Results of the Literature Analysis 7
   - 4.1 Desirable Leader Qualities 8
     - 4.1.1 Personal qualities 8
     - 4.1.2 Knowledge, skills and behaviour 9
     - 4.1.3 Tasks and activities 10
   - 4.2 Enablers for Public Health Leadership 13
     - 4.2.1 Personal enablers 13
     - 4.2.2 Organizational enablers 14
     - 4.2.3 Community enablers 15
     - 4.2.4 System enablers 16
   - 4.3 Barriers to Public Health Leadership 17
     - 4.3.1 Personal barriers 17
     - 4.3.2 Organizational barriers 18
     - 4.3.3 Community barriers 20
     - 4.3.4 System barriers 20
5. Discussion 22
6. Conclusions 27

References 29

Appendix A. Mapping the Public Health Agency of Canada (PHAC) leadership competencies to discipline specific leadership competencies 38

Appendix B. Description sets of public health leadership roles and professions 43

Leadership Competencies for Public Health Practice in Canada

Literature Review

1. Background

In 2008, the Public Health Agency of Canada (PHAC) released the Core Competencies for Public Health in Canada (2008). These competencies were in response to a post-SARS recommendation that called for an interprofessional public health workforce based on a set of competencies that were common across all public health disciplines (National Advisory Committee on SARS and Public Health 2003). In subsequent years, using a building-block approach recommended in the Pan-Canadian Framework for Health Human Resource Planning (Joint Task Group on Public Health Human Resources, Advisory Committee on Health Delivery and Human Resources, Advisory Committee on Population Health and Health Security 2005), the PHAC has also supported the development of discipline-specific competencies for seven key public health disciplines: public health dentists, physicians, nutritionists, and nurses; as well as, epidemiology; health promotion; and environmental health/health inspection. In most of these discipline-specific competency statements, leadership is included as one of several competencies.

Many definitions and theories of leadership have been proposed during the past 50+ years. Bernhard and Walsh (1995) provide an historical overview. The earliest theories proposed that certain people are born to lead (great man theory) and that leaders were endowed with special qualities (traits) that made them superior. By the mid-1950s, situational theories became popular; these theories described leaders as those who were in a position to institute change when circumstances (context) demanded. Interaction theories were posed when it became clear that neither traits nor situations could explain or predict leader behaviours; interaction theories posit that leadership emerges when personality and situations interact. Style theories then arose, suggesting that factors within a leader's value system, confidence in group members, and feelings of comfort and security in leadership situations along with forces within the group members and within the situation itself determined the amount of control a leader could or would exercise. Styles were further differentiated as paternalistic, bureaucratic, autocratic, diplomatic, and democratic. Democratic leaders were further differentiated as collegial, collaborative or laissez-faire. No one style was deemed appropriate for every situation; leaders were encouraged to choose a style that will best meet the needs of the group members, needs of the organization, and satisfy their own needs. Today, transformational leadership is most prominent in the literature; this theory views leadership as more important than management. Transformational leadership is described as commitment to a vision and empowering others to achieve that vision. It is more than being visionary and charismatic; it includes a commitment to change as a process, focus on relationships, ability to reconceptualize systems, talent to build networks and coalitions, and tolerance for complexity. Ultimately,

“leadership is the process of influencing an organized group toward goal setting and goal attainment” (Bernhard & Walsh 1995, p.63). Recently, higher level theories that attempt to predict leadership success have emerged: Theories X and Y, Theory Z, Path-Goal Theory, and several contingency theories have been proposed. It is not the intent of this report to provide an exhaustive review of leadership theory; the reader can follow his/her own inclinations to delve deeper into this field of research. Our intent is to focus on leadership as it relates to the public health sector in Canada and to the work of the professionals engaged in public health service delivery in this country. This overview was meant to situate public health leadership within what is already a large field of study.

Leadership in public health is defined by PHAC as:

Leadership is described in many ways. In the field of public health it relates to the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of their community and/or the organization in which they work. It involves inspiring people to craft and achieve a vision and goals. Leaders provide mentoring, coaching and recognition. They encourage empowerment, allowing other leaders to emerge. (PHAC 2007)

Several reports since 2005 have indicated that a gap exists in public health leadership in Canada (NCCDH 2011, p.18; ANDSOOHA 2010; CHNC 2011, pp.13-14). Reasons posed for this gap include the broad mandate of public health, the diverse disciplines involved in the public health sector, and the interprofessional nature of public health work. Why is leadership important in the public health sector? Many believe that more effective leadership would improve the translation of existing knowledge about the prevention and control of disease (and the promotion of health) into policies that lead to longer and healthier lives (Coye, Foege, & Roper 1994). The health problems today are complex and multidimensional, not like the predominantly straightforward challenges of the past (e.g., infectious diseases). Today’s problems are entangled with social and economic contexts that make solutions and interventions dependent upon multidisciplinary and intersectoral actions based on evidence that requires translation of research into practice.

In 2013, the Community Health Nurses of Canada (CHNC), along with partners the Canadian Institute of Public Health Inspectors (CIPHI) and the Manitoba Public Health Managers Network (MPHMN), received funding to support the development of leadership competencies for seven key public health disciplines. The first step in this Project was to conduct a comprehensive and rigorous literature review to drill down to learn what public health leadership competencies are, to determine what the facilitators, enablers and barriers are to leadership in public health, and to examine the readiness of public health organizations for leadership.

Once funding was received, a Project Steering Committee and an Expert Advisory Committee were struck and work began on the scoping review of the literature, both scholarly and grey. Guiding the review were the following questions, approved by the Steering Committee on April 18, 2013:

1. What is the extent of the literature on leadership competencies for public health?
2. What literature exists regarding enablers, facilitators and barriers for public health leadership?

A report on the literature regarding organizational readiness for leadership will be the subject of a second report.

Before beginning the scoping review, it was important to clarify some key terms.

Competencies are the "knowledge, skills and abilities demonstrated by members of an organization or system that are critical to the effective and efficient function of that organization or system" (Joint Task Group on Public Health Human Resources, Advisory Committee on Health Delivery and Human Resources, Advisory Committee on Population Health and Health Security 2005, p.24).

Public health is described by the PHAC as "the science and art of promoting health, preventing disease, prolonging life and improving quality of life through the organized efforts of society". As such, "public health combines sciences, skills, and beliefs directed to the maintenance and improvement of the health of all people through collective action. The programs, services, and institutions involved tend to emphasize two things: the prevention of disease and the health needs of the population as a whole" (National Advisory Committee on SARS and Public Health 2003, p.46). In Quebec's Public Health Act the margins of public health are clearly described:

Public health actions must be directed at protecting, maintaining or enhancing the health status and wellbeing of the general population and shall not focus on individuals except insofar as such actions are taken for the benefit of the community as a whole or a group of individuals. (Government of Quebec 2001)

Enablers/facilitators are those things that supply the means, knowledge or opportunity to make something able, feasible or possible. Enablers give power, capacity or sanction; they make operational, and activate.

Barriers are obstacles that prevent movement or access, or circumstances that prevent things from coming together.

2. METHOD

2.1 Preliminary Work: Mapping Exercise

The Public Health Agency of Canada, in its "Core Competencies for Public Health in Canada" (PHAC 2007), lists 36 core competencies in 7 categories. Leadership is one of these categories, and is comprised of 6 of the core public health competencies.

Certain public health (PH) disciplines – PH Dental, PH Inspection, PH Nursing, Community Health Nursing, Medical Officers of Health (MOH), PH Nutrition, PH Epidemiology, and Health Promotion – have identified competencies or standards specific to their scope of practice (Canadian Institute of Public Health Inspectors (CIPHI) 2010, Canadian Association of Public Health Dentistry (CAPHD) 2008, Community Health Nurses of Canada (CHNC) 2009, Bondy et al. 2008, Health Promotion Ontario 2009, MOH Working Group 2009, Pan Canadian Task Force on Public Health Nutrition Practice 2009).

The PH discipline-specific competencies do not all align naturally with, or mirror, the PHAC competencies. At times, leadership was not defined or even mentioned. As such, points relevant to leadership as defined by PHAC were extrapolated from the discipline-specific competencies in order to map them to PHAC core competencies relating to leadership. The results of this exercise were not meant to be definitive, but to provide a preliminary exploration of where PH discipline-specific leadership competencies do and do not align with each other or PHAC core leadership competencies.

In addressing leadership competencies in their respective competency documents, variation in defining what this competency means was illustrated. In the absence of a common operationalization of leadership, existing and potential parallels between PH disciplines are likely to be overlooked and unrecognized. This oversight has negative consequences for identifying and supporting PH leadership capacity across PH disciplines in order to advance public health goals. Existing capacity cannot be managed efficiently if available resources cannot be identified accurately and may lead to underutilization of existing PH leadership capacity or even unintentional duplication thereof.

More detail of this mapping exercise is located in Appendix A.

2.2 Identification of Scholarly and Grey Literature

To identify relevant studies from the scholarly literature, we searched electronic databases (MEDLINE, CINAHL, EMBASE, Global Health, Business Complete (EBSCO), PsycINFO). Key words (and thesaurus terms) such as leadership, leader, public health, community health, competencies, and the seven relevant disciplines were used in searches of the identified databases to locate studies suitable for inclusion in the literature review. Included were studies in English or French from 1995 to the present, but limited to original research, reviews and meta-analyses. Excluded were commentaries, news articles, letters, and opinion pieces.

Relevant grey literature was suggested by existing networks (e.g., Expert Advisory Committee), as well as located by searching key organizations and government sites using search terms, language and date range criteria the same as those for the scholarly literature search. Wherever appropriate, references cited in both scholarly and grey literature were also retrieved.

Evaluation of qualitative and quantitative strength of the literature was guided by various tools from the National Collaborating Center for Methods and Tools (NCCMT) and Critical Appraisal Skills Programme UK (CASP) websites (CASP 2010 “Systematic review checklist”; CASP 2010 “Qualitative research checklist”; NCCMT 2008, 2012). These evaluation methods facilitated a high level screen to ensure that the included literature was of reasonably high quality. However, as is commonplace in scoping reviews, even the literature determined to be less robust was included due to potential insights that may inform the analysis (Arksey & O’Malley 2005).

2.3 Charting of Studies

To identify relevancy of the scholarly literature found in database searches to leadership competencies in public health, a three-phase charting process was conducted. The entire charting process was documented using Excel™ spreadsheets.

Phase One was a quick screen of abstracts to determine if a study would be included or excluded. Two research assistants (RAs) conducted this phase after the completion of a calibration process wherein the same 100 abstracts were charted independently. Since the RAs were in agreement 85% of the time, a decision flow chart was developed to guide the quick screen of the remaining abstracts shared between the single RAs acting independently. RAs discussed any abstracts about which they were uncertain in order to make the decision on

inclusion/exclusion. In any case where both RAs were unsure, the abstract was included.

Phase Two was a closer examination of the abstracts, based on inclusion and exclusion criteria. Again, a calibration process was undertaken wherein the two RAs assessed the same 50 abstracts independently. Since they were found to be in agreement 80% of the time, analysis of the remaining abstracts was shared between the two and completed independently. Based on an increased familiarity of the included abstracts from Phase One, the research team revised inclusion and exclusion criteria to distil abstracts most relevant to the objectives of the scoping review. Abstracts were classified into seven categories: original research on public health leadership; original research on general leadership in health care; original research on leadership in patient safety; organizational readiness; knowledge translation; unsure; and not relevant. These classifications were charted in the Excel™ spreadsheet. The RAs' comments were also recorded.

In Phase Three, full text articles in the public health leadership category were retrieved. Upon reading the full text articles, it became clear when changes in classifications were necessary. Generally, articles were reclassified because the title and abstract referred to in Phases One and Two did not accurately reflect the content and purpose of the full text article. With the Phase Two categorization criteria as a guide, any re-classification of literature, and the justification for it, was noted as an editorial comment. Detailed information for the public health leadership literature was charted in the Excel™ spreadsheet, including: country of origin, primary specialty area/discipline, study type or design, brief summary, and editorial comments. The full texts of the public health leadership literature were coded and analysed using N-Vivo™ by two members of the research team.

All the grey literature and primary/supplementary literature was charted and analysed separately from the scholarly literature. The results of analyses from both sources were combined in reporting.

3. Results of the Literature Search

3.1 Composition of Literature

The scholarly literature search strategy yielded 3228 citations. Phase One resulted in 750 abstracts being included, and 2478 excluded, as determined by the quick screen decision flow chart. In Phase Two, applying inclusion/exclusion in the closer examination of the abstracts resulted in a further 336 abstracts excluded, and 209 abstracts identified as original research on public health leadership (PH). Through the analysis process of Phase Three, 139 public health leadership full text articles were retained. The quality of the retained literature was found to be moderate to strong.

Grey and supplementary literature contributed an additional 68 citations. Grey literature accounted for 48 of these and comprised of journal articles, conference summaries, questionnaires, power point presentations, reports, and working drafts prepared for or by government agencies, research groups and professional organizations. Supplementary literature accounted for the remaining 20, including books and articles published in peer-reviewed journals (including original research, commentary, position papers, and discussion papers).

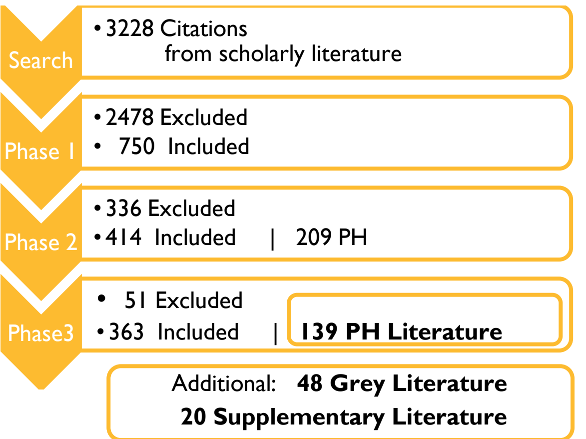

Figure 1. Composition of Literature

3.2 Description of the Public Health Literature

The majority of the retained public health leadership literature, just over half, were from the United States. The United Kingdom and Canada were the next top two countries of origin, and together comprise nearly one quarter of the articles. The remaining quarter+ of the articles originated from a total of 25 different countries, with Australia, Ireland, Sweden, and Uganda having the leading number of articles of this group of countries of origin.

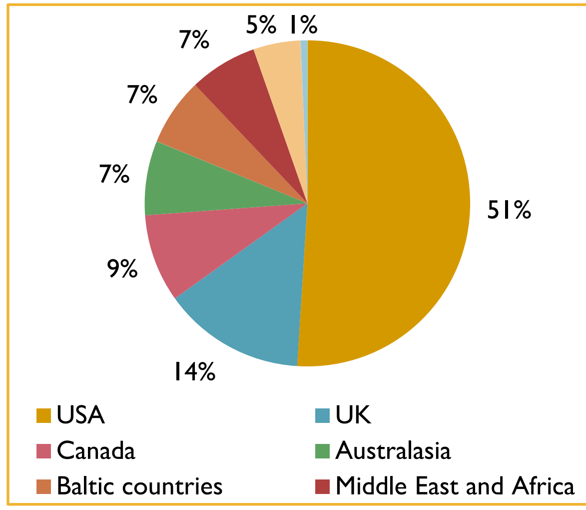

Figure 2. Distribution of Public Health Literature by Country/Region of Origin

Areas of specialty captured in the retained articles were varied and defied standardization. Consequently, the research team developed a table grouping roles and professions in order to categorize language found in the literature (see Appendix B). Furthermore, developing a set of professions descriptors captured effectively the public health professions as well as the range of roles within each profession as conveyed in the literature.

By far, the bulk of literature was from the areas of public health leadership and public health nursing. The other leadership roles combined were less, and the other professions combined were still less.

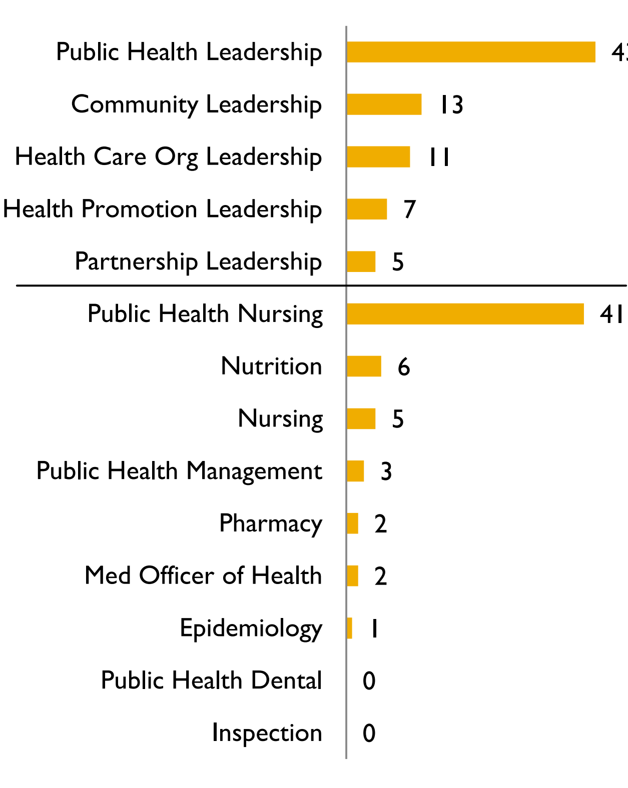

Figure 3. Distribution of Public Health Literature by Roles and Professions

3.3 The Terminology Debate

The literature review process illustrated an inconsistent use of the term *leadership*. At times the term was distinguished from management, or used interchangeably with management. Again, labels and definitions were established by the research team in order to code the full text articles. The majority of the literature was about leadership exclusively, and focused on the function itself. Many articles did not distinguish between leadership and management, or used the terms interchangeably. A smaller proportion of articles referred predominantly to management, although leadership was also discussed as a secondary subject term.

A similar terminology debate was evident in the literature with regard to capacity, competency, characteristics, and capabilities. Identification of the various skills, attributes and capacities abound in the literature reviewed; in fact, the sheer volume of lists of characteristics, knowledge, skills, and attitudes of leaders is overwhelming.

Inherent in the concept of leadership skills is a combination of knowledge about leadership and knowledge about how to "do" leadership. Combining this knowledge with performance develops competence or capacity. It is imperative that the knowledge components are separated from the performance components of leadership if we are to develop a fulsome understanding of leadership competencies. Similarly, while some suggest that leadership and management are separate and distinct, others see leadership as a function of management, as people in management positions are often called upon to "lead".

4. Results of the Literature Analysis

The role of leader in contemporary thought has moved away from the models of the past; today's public health world is complex and often marked as chaotic and in a state of flux. The days of the "hero" leader – all-knowing and all-powerful – have given way to a team-centred, collaborative view of leadership. The social and economic demands placed on the public health sector have in turn shaped requirements for leaders to have the skills and abilities that are every bit as complex as the situations they face. Leaders are seen as more than the positions or roles they enjoy within their employment settings; instead, leadership is called for at every level of an organization and in the community. Hence, in the discipline-specific competencies for those engaged in this Project, "leadership" is often identified as representative of a category of competencies.

Public Health Dentistry, Public Health Inspection, and Community Health Nursing have adopted the Public Health Agency of Canada's conceptualization of leadership. They share the understanding that leadership encompasses "competencies that build capacity, improve performance and enhance the quality of the working environment. They also enable organizations and communities to create, communicate and apply shared visions, missions and values" (PHAC 2008, CAPHD 2008, CIPHI 2010, CHNC 2009). Among Medical Officers of Health (MOH), leadership is paired with management competencies and represents how "MOHs champion action to improve and protect the health of the public in intersectoral and organizational settings. Internally, the MOH promotes a shared vision and purpose to drive action and is able to link today's work with long range plans" (MOH Working Group 2009, p.iv).

Notably, leadership competencies were not identified or defined in Public Health Epidemiology (Bondy et al. 2008), Public Health Nutrition (Pan Canadian Task Force on Public Health Nutrition Practice 2009) or Health Promotion (Health Promotion Ontario 2009).

This analysis reveals a lack of consistent operationalization of leadership as well as the lack of shared leadership related vocabulary across public health disciplines. For example, for Health Promoters, leadership competencies were not specifically identified or defined. However the term "leadership" was found embedded within one of eight draft[1] competencies: "6. Engage in partnership and collaboration that includes: …; 6.2. Utilizing *leadership*, team building, negotiation and conflict resolution skills to build community partnerships" (Health Promotion Ontario 2009, p.12). Although Health Promotion does not use the term leadership to organize or classify their discipline specific competencies, the Health Promotion competencies parallel those that other public health disciplines have specifically identified as leadership competencies.

Inconsistencies in the recognition and definition of leadership competencies confirm the ongoing evolution of public health leadership and existing opportunity to support leadership capacity across public health disciplines.

4.1 Desirable Leader Qualities

In this section desirable individual leader qualities found in the reviewed literature are presented. A personal quality can be conceived as a distinguishing characteristic, attribute or capability held by an individual. Leader qualities have been divided into three categories for the purposes of this report: personal qualities; knowledge, skills and behaviours; and tasks and activities. These qualities are held by persons as individuals regardless of their leadership roles in public health organizations.

4.1.1 Personal qualities

Personal characteristics, such as aesthetic purpose, passion, credo or belief, have been described as the anchor of personal capacity for leadership (LDNEC 2001).

In the published and grey literature specific personal characteristics identified as desirable for leaders in public health suggest that a leader must be courageous (CNA 2009); honest, passionate, responsible, optimistic, visionary, energetic, credible (Alexander 2011, CNA 2009, Gilmartin 2007, LDNEC 2001, McKenna 2004, NCCDH 2013b, Sauvé 2012); non-threatening (Davies 2010, PHABC 2008); risk taking and motivational (Alexander 2011, Edwards 2010, Meagher-Stewart 2010, Woltring 2003, Wright 2000, NCCDH 2013b).

Leaders demonstrate character (CCHL 2010); and exhibit honesty, integrity, optimism, and confidence (Dickson 2007).

Leaders demonstrate resiliency, tenacity and a commitment to see things through (BT 2013, Dickson 2007). Leaders demonstrate integrity, humility, compassion, values, motivation, emotional intelligence (Dickson 2007, PHABC 2008); charisma (LDNEC 2001); interest in activism, moral conviction, and belief in social justice (Calhoun 2012, CNA 2009, Darling 2009, Davies 2010, Dickson 2007, Edwards 2010, Folta 2012, Joyce 2009, NCCDH 2013b, Yukl 2012).

Furthermore, leaders are self-resilient, self-reflexive (Fealy 2011); have self-knowledge, possess a keen self awareness (BT 2013, CCHL

[1] Health Promoters do not have a set of nationally ratified discipline specific competencies.

2010, Dickson 2007, Li 2012); self-manage, and develop self (CCHL 2010).

Overall, leaders have an attitude characterized by moral conviction, motivation, a sense of personal and social responsibility (NCCDH 2013b, ORCA n.d.); and a willingness to accept and take risks (Roper 1994, NCCDH 2013b, ORCA n.d.).

The role of leader in contemporary thought has moved away from the models of the past; today's public health world is complex and often marked as chaotic. Communication has been increased and indeed complicated by rapid technological advances and the advent of social media. The days of the "hero" leader – all-knowing and all-powerful – have given way to a team-centred, collaborative view of leadership. The social and economic demands placed on the public health sector have in turn shaped requirements for leaders to have the skills and abilities that are every bit as complex as the situations they face. Leaders are seen as more than the positions or roles they enjoy within their employment settings; instead, leadership is called for at every level of an organization and in the community. Hence, in the discipline-specific competencies for those engaged in this Project, one competency is "leadership".

Complicating the application of the descriptors of leader qualities to the real world are questions about how such attributes as integrity, charisma, courage, honesty, passion, optimism, visionary, energetic, and credibility are judged. Perhaps they are assessed within the context of what a leader does or says, but the subjective nature of such assessments is problematic. For example, a person who is not particularly outgoing might be judged as not energetic or too cautious to be a good leader, but in fact may, by actions, be a very good leader that has (and can articulate) a vision for a preferred future and bring people together to strive for that vision. A focus on traits or characteristics implies that only certain types of people can be leaders, whereas the notions of leadership capacity and competency suggest otherwise.

If we examine the terms used in the public health leadership literature, we find that the descriptors of personal qualities can be grouped according to the following categories: the ability to build and communicate a vision; the ability to collaborate and lead interprofessional teams; strategic flexibility and the ability to manoeuvre among the political and legal contexts of the public health and health care systems; and the ability to self-renew, learn and face challenges with spirituality and humour.

Better than lists of qualities are descriptors for those who work with leaders; for example, charisma might be described as "I am prepared to trust him/her to overcome the obstacles we face"; and vision as "He/she describes a future that I can imagine and that I foresee as positive".

In the next sections we will focus not on what leaders "are", but on what they "know" and what they "do".

4.1.2 Knowledge, skills and behaviour

Leaders can be distinguished through a combination of personal knowledge, skills and behaviours.

Knowledge in many areas is considered important, including those of population health, public health, human health and regulatory systems (CNA 2009, Clark-McMullen 2010, Deschaine 2003, Hsu 2012, Peirson 2012, PHABC 2008, Sauvé 2012, Umble 2005); determinants of health, health demographics and outcomes, critical social theory, structural aspects of society, inequality, inequity, and use of a social justice lens (NCCDH 2013b).

Leaders' knowledge includes values and ethics, cultural awareness, technology (including that for communication and operational processes) (CNA 2009), and organizational leadership (Calhoun 2012, Hsu 2012, PHABC 2008, Wright 2000).

Baran (2010) describes "leadership as a collective sense-making process in which ambiguity is reduced and resilience promoted" (p.S42).

Multiple **skills** characterize public health leaders: carefronting (i.e., inviting not demanding another to change) (Woltring 2003); supportive, empowering, communicating up and down the organizational hierarchy (Sauvé 2012, Yun 2005); ability to understand the different styles and expectations of communication across professions (Carney 2009, Hemingway 2013, LDNEC 2001); well-connected, political competence (CNA 2009); systems/critical thinking skills (CCHL 2010, LDNEC 2001); process mobilization (CNA 2009, CCHL 2010); negotiation and mediation skills, recognizing, empowering (Dickson 2007, Folta 2012, Mansour 2010, PHABC 2008, Saleh 2004, Woltring 2003, Yukl 2012); innovative and creative (CCHL 2010, CNA 2009, ORCA n.d.); clear and transparent communication, capacity building (Dickson 2007, Sauvé 2012); and consensus building skills (LDNEC 2001).

Evidence-based decision-making skills, and the ability to envision and adapt to a rapidly changing and chaotic healthcare system are also attributed to effective leaders (CNA 2009).

Through their **behaviour** leaders model and mentor [the organizational mission], advocate, mobilize process, guide change (Alexander 2001, Badovinac 1997, CCHL 2010, Dickson 2007, LDNEC 2001, Longest 2002, Milstead 1999 in Deschaine 2003, NCCDH 2013b); are accountable (Dickson 2007); recognize contributions of others, engender rapport and trust (Alexander 2001, LDNEC 2001, Sauvé 2012, Woltring 2003); serve as a catalyst, exhibit political competence and knowledge of policy making processes, guide change, build partnerships, coalitions and capacity, and share leadership (Baran 2010, CNA 2009, PHABC 2008, Sauvé 2012).

Leaders are open to criticism and willing to act above and beyond the normal requirements and expectations of the role (Fealy 2011); and ultimately, demonstrate an ongoing willingness to learn (LDNEC 2001).

Supportive leadership styles are reported to promote involvement, increase members' satisfaction and participation (Butterfoss 2004, Kumpfer 1993); and demonstrate drive, motivation, forward thinking, flexibility, and reflexivity (Baran 2010,Cameron 2012, Nowell 2011, Xirasagar 2008, Yukl 2012).

4.1.3 Tasks and activities

The knowledge, skills and behaviours held by leaders are put into practical application as they advocate and envision change, encourage innovation and facilitate collective learning [including that which is change oriented] (Darling 2009, Deschaine 2003, Dickson 2007, Edwards 2010, Fox 2008, Hanson 2007, Yukl 2012).

In public health, **tasks and activities** that arise from the personal characteristics, knowledge, skills, and behaviour of leaders can be grouped into five domains: lead self, engage others, achieve results, develop coalitions, and transform systems (CCHL 2010, Dickson 2007).

Leading self involves self-awareness and self-development including development of personal skills and lifelong learning (CCHL 2010, Dickson 2007). Effective leaders demonstrate commitment to ongoing professional

development and a "mindset where every experience, opportunity, change, situation, challenge, and conflict is seen as an opportunity to learn" (CCHL 2010, p.1).

Leaders are aware of values and principles that motivate their decisions and actions (CCHL 2010). Being true to one's values and acting accordingly, also termed "authenticity", inspires others and garners support. Balancing authenticity and performance expectations is a leadership task (CNA 2009, Huston 2008).

Engaging others involves learning with others, modelling behaviour, coaching, empowering, fostering trust, using clear and persuasive communication, vision sharing, recognizing and developing capacity in others, and creating collaborative opportunities (CCHL 2010).

Leaders create engaging environments where people have meaningful opportunities to contribute (Dickson 2007), promote safe care, quality practice environments and social justice (CNA 2009).

In their own organizations leaders facilitate on-going training (Baran 2010).

In a wider sphere they interact through discussions with legislators, policy and program decision makers and others in their constituencies, and have themselves fiscal authority (over and above persuasion) (CNA 2009, Deschaine 2003, Ericson 2013, Misener 1997, Nowell 2011).

Leaders **achieve results** through setting and selling a compelling and clear direction/vision (CCHL 2010, Dickson 2007); developing strategies for change that consider structure, culture and skills, taking action and demonstrating commitment to change, and ability to assess and evaluate change processes (CCHL 2010, McCowan 2007).

Leaders are also aware that taking care of their people cannot exclude taking care of the tasks at hand (Goulet 2012).

Leaders in public health are actively engaged in community assessment, effective population health interventions and their evaluation, taking a population approach and assuming responsibility for data collection and analysis, as well as monitoring the health and well-being of the population (McCowan 2007, PHABC 2008, Sauvé 2007).

Leaders use evidence-based decision making to facilitate change and to establish evidence-based administrative practices as a culture in their organizations (Dodson 2010, Peirson 2012, Sauvé 2007, White 2008). Leaders translate research into practice, evaluate and disseminate the results of effective public health practice programs, and contribute to the published public health practice literature (Calhoun 2012, Peirson 2012).

Unique to public health leadership, the needs of the population usurp the needs of the organization and must be kept at the forefront of decisions and actions (PHABC 2008).

Developing coalitions involves purposeful pursuit of partnerships and networks and navigation of socio-political environments (CCHL 2010).

Collaboration is regarded as a critical capacity for effective leadership (LDNEC 2001). Skills of facilitation, negotiation (Alexander 2001, Kegler 2007, LDNEC 2001), strategic influence (McCowan 2007), political skills paired with commitment, persistence, persuasiveness, credibility, and trustworthiness (LDNEC 2001) are employed in collaboration activities.

Leaders **network** within their own organizations as well as with other organizations, sharing their vision with the community, as

sharing vision is a way of garnering the support and resources of the wider community to accomplish their mission (Alexander 2001, Dickson 2007, Umble 2005, 2011, Yukl 2012).

Leaders ensure that **resources**, including people and equipment, are used efficiently to accomplish their mission. Effective leaders develop new members, resolve conflicts, and advocate and encourage commitment, different viewpoints and group achievement (Butterfoss 2004, Dickson 2007, Mitchell 2000).

Leaders oversee **systems transformation** by means of systems/critical thinking, encouragement and support of innovation, championing and orchestrating change (CCHL 2010), and knowledge mobilization (Dickson 2007).

Leaders insist on practising to their full and legal **scope** and push the boundaries of practice to innovative new levels (CNA 2009, Sauvé 2007).

Health leaders change systems by **mobilizing knowledge** to challenge process and guide change (Dickson 2007).

Furthermore, leaders **take responsibility** for clarifying, planning, monitoring operations, and task-oriented problem solving (Sauvé 2007, Yukl 2012); and demonstrate accountability to the public and commitment to public health outcomes (PHABC 2008).

This Desirable Leader Qualities section summarizes information identified in the scoping review that pertains to qualities that distinguish leaders from those whom they lead. In large part these characteristics are positive attributes that can be applied in leadership situations within the public health context. In short, according to these qualities, public health people are likable people; since we found no literature on the effectiveness of leadership in the public health sector, we cannot say with any degree of certainty that these personal qualities will in fact lead to achievement of the mission of public health agencies. There are, nevertheless, some contradictions in the existing descriptions of what is expected of a leader in public health, especially as to the personal qualities they possess. For example, no literature addresses how a creative and transformational leader can act with any degree of safety (psychological or employment) in the current context that is an hierarchical, outcomes-driven, acute-care oriented health system as well as being professional-centred rather than community-centred.

We found that in a preponderance of cases, the literature on leadership in public health was atheoretical; that is, it did not specifically reference a leadership theory or model. Nevertheless, upon reflection, many descriptors lead us to infer that while there was an emphasis on situations prominent in public health practice, the descriptors of leaders stressed what can be categorized as a transformational leadership style. In transformational leadership, leadership is relational and creative. A transformational leader has the ability to deliberately engage one's imagination to define and guide a group toward a novel goal – a direction that is new for the group. As a consequence of bringing about this creative change, the leader has a profoundly positive influence on his or her context (i.e., workplace, organization, and community), the individuals in that context, and the environment in which they collaborate.

There exists a need for distinction between capacity building within organization and capacity building within community to forward public health goals. This is illustrated in apparent overlap between two competencies in the PHAC Core Competencies: "7.4 Contribute to team and organizational learning in order to advance public health goals" (PHAC 2007) and

"7.6 Demonstrate an ability to build community capacity by sharing knowledge, tools, expertise and experience" (PHAC 2007). Team and organizational learning may be regarded as capacity building, as sharing knowledge, tools, expertise, and experiences can be regarded as capacity building strategies. The context/audience should distinguish these leadership competencies. However, the descriptors used suggest that community frequently refers to one's professional community, students or new practitioners as opposed to the greater community comprising citizens, NGOs, other sectors, and the municipality. In that case, the overlap between capacity building among peers and community is considerable.

4.2 Enablers for Public Health Leadership

In this section enablers and facilitators for public health leadership found in the reviewed literature are presented. An enabler is something that provides knowledge, means or opportunity to activate or make something operational ("Enabler" 2013). Many of a leader's personal qualities can be supported (or obstructed) as his/her roles are enacted; if leaders are located in an organization or system that supports and values leadership, they can expect to do well. It is important, therefore, to situate the enablers in context. The enablers for public health leadership are presented in four sections: personal; organizational; community; and system.

4.2.1 Personal enablers

Some factors identified in the literature do not enable leadership *per se* but enable leaders as individuals to act. It is necessary for leaders to gain the confidence and respect from the people with whom they interact – otherwise there will be no followers. In public health agencies, most employees are professionals from several disciplines; they are well-trained knowledge workers and think of themselves as free agents, not as dependent underlings, and act accordingly. They are not an amorphous homogeneous group of people, nor are the communities that are served by the public health system. Therefore, the factors that enable leaders are dependent upon them knowing and understanding those they are trying to influence, whether colleagues or citizens.

Effective public health leaders are able to **engender trust** (Kegler 2007); are empowering, share power horizontally, use a democratic decision-making style, facilitate community participation, are responsive and accessible, and share their personal vision (Kuiper 2012) that is explicit and flexible (Sauvé 2012) as well as clear and compelling (BT 2013); and promote a healthy workplace culture (Nowell 2011).

To **engender the trust** of those with whom they interact, leaders enable others by providing strong, unwavering support to their teams and co-workers, have credibility, embrace change, and use collaborative approaches to building a vision and implementing the ensuing change processes (Kelger 2007).

Leaders are fluent in the language of the multiple professions with whom they interact, including different styles and expectations from a variety of programs or disciplines; they are aware of, and have the ability to adapt to, diverse audiences and devise their **communication** strategies accordingly (LDNEC 2001). This fluency is accompanied by respect, trust and a valuing of public health that demonstrates professional competence (Underwood 2009).

Often public health leaders are **champions** for public health principles, actions and interventions, and are opinion leaders by virtue of their evidence and knowledge bases.

To be an effective public health leader, an individual needs to bring **strategic** and reflexive **thinking** and **political competence** to his/her leadership, along with knowledge of social marketing (Kegler 2007) and good connections and networks (Kuiper 2012).

One personal enabling strategy used by leaders is humour; humour can reduce stress in the workplace and help tease out the complexities of an issue (LDNEC 2001). Dickson (2007) suggests also that spirituality can ease the stress of leadership.

Finally, in the process of leading, public health leaders acknowledge and **act as leaders**, not managers (Folta 2012); act from influence rather than from the authority afforded by a senior position (Sauvé 2012); take an approach that is grounded more broadly than the traditional medical model (Clancy 2007); and know when to allow others to resolve obstacles as appropriate (Saleh 2004).

Is transformational leadership the style that is best for the public health sector, or is it the best because there are more women than men leaders in public health by virtue of the preponderance of nurses in the public health workforce? While gender was not well addressed in the public health leadership literature, it was suggested by Folta (2012) that there is a perceived incongruity between the female gender role in which communal characteristics (pleasant and compassionate) are valued, and assertiveness and competitiveness, qualities traditionally associated with successful leadership, are not as appreciated. Folta (2012) found in a study of women leaders that women were more likely to use a transformational leadership style and suggest that women may favour this style because it is consistent with the female gender role and is an effective approach.

Much of the literature on leadership in public health focuses on nursing. Some possible reasons for this bias are that a specific branch of nursing centres on nursing administration and management, some scholarly nursing journals focus explicitly on nursing management research, and recent shortages in the supply of nurses fuel demands for more leaders, more leadership research and more leadership development. Furthermore, because nurses are so numerous and ubiquitous in the public health and health care systems, it is easy to focus leadership studies on them.

Suggestions that leaders "develop" others are ambiguous without describing exactly what development means and how it is achieved. Development can mean support for training, mentorship, and providing opportunities and challenges for others to grow, progress and themselves mature into leadership roles. Such lack of specificity in the terminology used in the literature reviewed means that the reader is left to ponder the multiple meanings of the terms used.

4.2.2 Organizational enablers

Public health leaders are often situated within organizations and the public health system that are subject to scrutiny, including both performance and outcomes, whether they are in management positions or on the front line. Leaders can be formal by virtue of a position they hold, or informal by virtue of the influence they wield in the absence of an official position.

An enabling public health organization **values leadership** at all levels and acknowledges, recognizes and takes advantage of their formal

and informal leaders by including them as appropriate throughout organizational processes (Gilmartin 2007, Hansen 2007).

When an organization **supports its people** in being innovative (Fox 2008), it enables them to find more effective and efficient ways to operationalize the public health mandate to reduce inequity and promote population health (Bekemeier 2012, Poulton 2009, Orton 2011, Sutcliffe 2010).

An organization that **embraces the social justice approach** to service provision and values participation enables its people to exercise leadership in various settings and throughout the bureaucracy (Calhoun 2012, Orton 2011). This vision and those values should be built into planning and performance indicators (NCCDH 2012).

Mentorship and succession planning are the means by which organizations plan for the future, giving support to emerging leaders and offering them learning opportunities to develop their competencies and skills (Dickson 2007, Franks 2012, Fielden 2009, Ganann 2010, Gilmartin 2007, Hansen 2007.

Organizational empowerment of leadership vision (LDNEC 2001) is enabling, in turn facilitated by policy and built-in support for leadership in organizational planning and performance indicators (NCCDH 2012).

Policy commitment throughout an organization, from human resources, budgets, high quality data collection, and adherence to external policies and standards are also organizational enablers for leaders (NCCDH 2013b).

Organizational regulation and policy to support **full scope of practice** of health promotion practice, including leadership (RNAO 2005), plus inclusion or development of positions for public health professionals that are involved in decision-making processes (RNAO 2005) enable leaders.

As well, the literature documents the need for leaders to have opportunity to discuss the **challenges** they face without the pressure to perform (Eriksson 2010).

4.2.3 Community enablers

The environment in which public health professionals work, as well as the target of their work, is referred to as "the community". A community can be a physical entity such as a neighbourhood, a setting (e.g., school, restaurant, day care), a group of people (e.g., seniors, teen mothers), and the like.

Public health leaders can be located internal to and external from a range of communities; they may be employed in a health sector, government or academia, may be a community activist or may be with a non-governmental organization (NGO).

The literature suggests that in order to facilitate leadership in and with communities, professionals should be able to work together as a joint resource for the benefit of the communities with whom they work (Clancy 2007); receive **cooperation and collaboration** with government agencies, such as the departments of education, agriculture and health (Agron 2010); be adequately funded (Folta 2012); and have resources for community engagement processes, and opportunities for learning *in situ* what communities need rather than relying on book learning (Vargas 2012). In regard to the latter, there is the on-going need to increase partnerships and enhance the skills of local community and indigenous leaders (Tsark 2007).

If communities are not receptive to engagement with public health leaders, then leadership is not

possible without first doing some **community development** work and creating a supportive environment for public health action. "Building relationships between and among [public health professionals] and communities is a long-term effort that requires demonstrated understanding and support for their issues" (NCCDH 2012, p.9).

Whether a system issue or an organizational issue, **sustainable funding** at system and community level is important to enable leadership and innovation (Grumbach 2004) so that the public health role in collecting, reviewing and analysing population health data is supported (NCCDH 2013a) and that stakeholders' needs and political, demographic and political trends are understood (LDNEC 2001).

Fostering trust as part of the process (LDNEC 2001) is supported by communication that is transparent and ongoing to support the relationship (Fukuyama in Goodman 1998). Trust within a community supports new and varied social relationships, adding to their social capital (Fukuyama in Goodman 1998). Trusted leaders are assets in times of change (LDNEC 2001).

Working with communities entails having their support (Sutcliffe 2010) that is facilitated by a number of processes, including communication, respect and information sharing. A **persuasive communication plan** (Sauvé 2012) that includes reciprocal sharing of resources that can benefit the community and may include non-community capital and social capital as well as shared planning are positive enablers (Cramm 2013, Sauvé 2012, Goodman 1998, LDNEC 2001).

Strategies for working with communities include highlighting potential economic benefits in times of restraint (Sauvé 2012); knowledge transfer that includes moving evidence into action, and promoting evidence-based practice through training and support (Sauvé 2007, Sutcliffe 2010, LDNEC 2001). These processes in turn create learning opportunities for people and organizations (Dickson 2007), fostering knowledge development and mobilization (BT 2013).

4.2.4 System enablers

System is defined as "a group of interacting, interrelated or interdependent elements forming a complex whole" ("System" 2013). Few articles in the reviewed literature address system issues related to public health leaders. It is reports from various agencies and organizations that provide insight into what is currently happening in public health that provides benefit at a health system level.

Public health leaders are reportedly uniquely positioned for leadership at a systems level through their linkages with policy makers and colleagues in other sectors - including the community - that extends their influence to multiple spheres (NCCDH 2013a). "These attributes are especially important in complex areas such as that of health equity work, which requires both strong leadership and strong collaboration" (NCCDH 2013a, p.24).

The Registered Nurses Association of Ontario (RNAO) documented the positive benefits of regulation and policy to support full scope of practice of health promotion practice including leadership (RNAO 2005).

The Vancouver Regional Health Authority was praised for including health equity indicators into its regional health report. The report and the work documented in it demonstrated the benefits of the leadership role taken by public health people among health system staff who

raised awareness of the determinants of health. Equity indicators were also included in the report (NCCDH 2013a).

Some awareness of system level needs is also present in the following documents:

The Northeast Public Health Leadership Institute (NEPHLI) provides training that consists of a year-long experiential program aimed at building and improving the leadership skills of current and future public health practitioners (Saleh 2004).

The National Public Health Leadership Institute (NPHLI) developed a program in the early 1990s. Evaluation results show that completing the Institute training increased collaborative leadership and built knowledge-sharing and problem-solving networks. These practices and networks strengthened interorganizational relationships, coalitions, services, programs, and policies. Intensive team- and project-based learning was key to the program's impact (Umble 2005, 2011).

It is important to note that the two American institutes above operated only within the realm of their educational or state constituencies, although the NPHLI drew participants from across the country.

The Public Health Agency of Canada (PHAC) has funded six public health collaborating centres to support the process of putting evidence into practice through public health practitioners and policy and decision makers (PHAC 2013). The Centres identify gaps in practice and research to encourage filling of these lacunae, and link those involved in programs, policy, management, and practice to support knowledge translation.

The Public Health Association of British Columbia (PHABC) recognizes the need for system capacity and support and therein the need to:

Promote the development of the public health infrastructure required to support implementation of the BC Framework for Core Function for Public Health that includes: ensuring expertise in health assessment and disease surveillance; policy development planning and community engagement; providing required training, education and mentoring support; creating an environment that has supportive attitudes, values, principles and ethical framework that fosters safety, cultural sensitivity and flexibility to support advocacy and decision making; and most significantly ensuring appropriate leadership. (PHABC 2008, p.7)

In summary, the overarching theme of enablers is empowerment. As has been suggested, people must be empowered in order to collaborate successfully (LDNEC 2001). In fact, the very essence of leadership may be regarded as knowing how to empower self, others, organizations, and communities (LDNEC 2001).

4.3 Barriers to Public Health Leadership

Barriers, or obstacles, are those issues or factors that inhibit action or access. Barriers may be non-material such as a circumstance or legal stance that limits or prevents communication, progress or keeps people apart ("Barrier" 2013).

The barriers for public health leadership are presented in the same four sections as used for the enablers: personal; organizational; community; and system.

4.3.1 Personal barriers

Personal barriers to public health are **defined** as factors that impede application of a person's individual characteristics to their leadership role. One aspect of leadership that is notable in the

literature is that it is context bound (Fealy 2011, Joyce 2009, Kuiper 2012, Marks 2005, Nowell 2011, Orton 2011, Peirson 2012, Vargas 2012). A leader's success is conditional on organizational context and setting (Fealy 2011, Joyce 2009).

Among the human **challenges** facing leaders in their contexts are colleagues suffering from change fatigue (BT 2013); those colleagues and team members who are overloaded, overwhelmed, unresponsive, self-interested, or passive (Folta 2012). Additional challenges are posed by staff resistance and lack of accountability of team members (Woltring 2003).

Leaders themselves may face **challenges** related to lack of political power; lack of mentoring; caseload pressure (CNA 2009); lack of education and or training (Ceraso 2011), limited opportunities for continuing education (Saleh 2004); perception that leadership is an 'add on' part of their role (Cameron 2012); lack of competence or lack of engagement in the clinical context (Fealy 2011); underutilization of evidence to inform decision making both in strategy and developing performance indicators (BT 2013, Sutcliffe 2010); and the need to deal with confrontation (Schwarzkopf 2012).

Burnout is a particular challenge for senior executives. The "shelf life" of senior-level personnel (AKA leaders) has declined markedly over the past 3 decades, from 4.5 years to less than 2 years by 2005 (BT 2013, p.4). This rapid turnover can have a profound effect on leadership in organizations and public health system change.

Affecting the context in which leaders work are issues such as the **tensions** between taking care of people and work (RNAO 2005); caseload pressure; the leader's position in the organizational hierarchy (Fealy 2011); overcoming reluctance for organizational change, lack of trust in a health department, communicating in low trust situations, and special group opposition (Woltring 2003).

Further impediments to personal leadership from sources external to their context include **communicating scientific information** to the press, communicating with external stakeholders (Woltring 2003), and a lack of political skills to enable them to influence policy decisions about public health practice (Berkowitz 2002).

In examining the various barriers faced by public leaders, it became evident that personal barriers are every bit as important as those qualities that enable leadership. For example, being self-reflective and self-aware can also be viewed as being self-absorbed to the point of becoming unable to step aside and let (or mentor) others to take the lead in an activity or project. A willingness to learn may foster the implementation of small but incremental changes that ultimately weaken the team. Commitment and consistency may be substitutes for stubbornness and persistence on a single approach or action without being open to other perspectives.

4.3.2 Organizational barriers

"Public health leadership today suffers from problems of morale, skills, and systems … [this] begins with the lack of respect accorded the field of public health. It continues with the paucity of resources and attention given to its issues" (Roper 1994, Morale, para.1).

Within public health organizations a **shared mission** is integral to smooth functioning; this mission must be clear and explicitly known amongst the members of the organizations. Many factors can serve as barriers to public

health leadership within organizations; those directly related to the stated mission are misalignment of goals, objectives and incentives internally and among stakeholders and partners in public health (Alexander 2011); a lack of understanding of public health and its value among staff; lack of knowledge of the determinants of health; and clinical care versus public health mandate.

Organizational structures that lack professional alignment of values and priorities exacerbate cross-disciplinary boundaries and impede effective communication and understanding (CNA 2009, Underwood 2009).

Structures and processes to sustain organizational change over the long term have been given little attention in the literature. Similarly, little attention was given to leadership teams versus individual leadership.

At a basic level, a **lack of formal leadership training**, dedicated time for leadership (including time for training and health promotion work) (Eriksson 2010), and low organizational capacity (e.g., staff shortages) also obstruct public health leadership.

Specifically, **shortages** of nurses could have impact on leadership in public health (Bekemeier 2010). The types of services and health outcomes affected by staffing shortages are poorly understood, as are the connections among the types of public health workers and leaders as they influence organizational capacity (Bekemeier 2010).

Without **leaders that are distributed throughout organizations**, inclusivity in working toward a shared mission is problematic.

Information technology (IT) support within public health organizations has also been noted as a shortfall (Cameron 2012). While distance communication has some advantages, a lack of face-to-face meetings prevents fully engaged communication (Wiesman 2011).

Lack of organizational support for evidence-based practice is a barrier to leadership. While the demand for evidence-based practice is a common message, evidence is not translated into practice without organizational support (BT 2013). Barriers to evidence uptake include knowledge, skill, lack of resources such as learning resources/opportunities, time, and funding (McCluskey 2013, Underwood 2009).

Leadership is further threatened when individuals experience **alienation** within an organization wherein staff lacks access to policies, procedures, protocols, and up-to-date information to support client care, ensure employee well-being, and handle potential emergencies (Underwood 2009).

Organizational change in the absence of an explicit and clear vision impedes leadership. Without a "big picture" or concept of the preferred future, attempts at change are likely to be relegated to silos and are unlikely to effect meaningful or lasting change. As such, existing behaviours, culture and system structures prevail (BT 2013).

Furthermore, **organizational growth** presents challenges of new goals, organization and culture, and a new or modified hierarchy. People within the organization with whom the leader works in times of change are subject to change fatigue, overload and continuous change on a daily basis (Hopayian 2005).

A **culture** of improvement may be absent in the organization (BT 2013); this situation, and other sets of circumstance, demand particular styles and types of leadership (Jackson 2009).

Development of **new entities** (e.g., departments, programs) within or extra to

existing organizations generates instability and uncertainty, sometimes described as being "battle weary" (Hopayian 2005).

Personnel feel less visible and underestimated as a profession when lead by other professions in their organizations (Clancy 2007).

4.3.3 Community barriers

Leaders working with communities face a number of challenges, from the very basic **low visibility** of public health practitioners (Cameron 2012), to **community engagement**. Working with communities can involve processes leading toward partnership and collaboration, therefore resources for assessment of community-based priorities and growth in 'big picture' public health versus local needs must be acknowledged (Alexander 2001, Joyce 2009).

Communication of information and ideas supporting community change leadership, and overcoming common challenges in this arena, include fundraising and organizational growth. Organizational growth within communities requires capacity building, shared leadership, agreement on the mission, clear and transparent communication, and mutual trust and respect (Alexander 2011, Carney 2009, Sturm 2009).

As with other contexts, **conflicts** arising from scope of practice or professional ownership can arise along the continuum of interaction among communities and public health professionals (Andrews & Wærness 2004 in Clancy 2007). The challenges of designated funding to be used at local levels are apparent (Clancy 2007) and are influenced by a number of factors that include differences in attitudes, values and beliefs that can occur in diverse, multigenerational populations (Schwarzkopf 2012).

4.3.4 System barriers

The overarching health and political systems in which public health leaders operate covers a broad spectrum from small remote communities to large, complex legal and government agencies. As with other enablers and barriers influencing leaders in public health, the system level domain can generate factors that can enable, obstruct, or both, depending on the particular context. Modern health systems are complex; leadership is about negotiating these systems (Fealy 2011).

At the highest and most formal level the system is governed by **legislation and policy** that affect guidelines, funding, organizational missions, and population health outcomes. In Ontario it has been noted that additional resources for public health are routinely targeted at disease control, leaving public health efforts in health promotion and capacity building diminished (at individual, family and community levels) (RNAO 2005).

Outcomes of diminished **funding** include possible foci on high profile public health issues such as vulnerable and at risk populations at the cost of resources for needs such as mental health and the needs of high school students (RNAO 2005).

One study identified a strong **role for government** and system-level action to optimize public health nursing practice, particularly in areas of funding and public health leadership (Meagher-Stewart 2010). Government is expected to take a strong leadership role in public health as an advocate in publicly funded health care delivery (Meagher-Stewart 2010).

Consistent public health **messages** and consistent leadership at meso and micro levels are needed as part of this government advocacy process (Berkowitz 2002). At the same time

there is a lack of supportive legislation in some areas (PHABC 2008).

The public health sector is a small **part of the larger health care system** (NCCDH 2013a), which challenges those who communicate the role of public health to the public. While some determinants of health are already familiar to the public (e.g., housing, food, social support), the processes and structures that result in population health inequity, including the role public health plays in the overarching system, remain a challenge to advocacy for the priorities of the public health sector (NCCDH 2013a).

Sustainability of programs and efforts in the public health sector is an ongoing issue (Grandy 2013, Clark-McMullen 2010, Peirson 2012); there are also challenges for adequate funding of public health infrastructure (as compared to hospital and health care), stemming from the idea that prevention spending is discretionary while spending for acute and chronic medical care is driven by entitlement (Roper 1994).

Navigating multiple and varied **priorities**, with competition for support between curative and preventative activities, presents challenges to those in public health leadership roles (Sauvé 2012).

Leaders require **infrastructure** support, now including up-to-date information technology, as basic resources (Peirson 2012).

As public health evolves, **new professions** emerge – seen by some to hinder, not help, the mission of the sector (Clancy 2007). Negotiations and guidelines are needed to make clear issues such as scope of practice; complexity, including multidisciplinarity; and the use of a range of technologies for communication throughout the system.

The work setting influences and is, in turn, influenced by leadership and its development (Dierckx de Casterlé 2008), with the overall system no exception to this **mutual relationship**.

As we think about organizational enablers and barriers, often any descriptor has another side of the coin; for example, an organization that is autocratic in its style and bureaucratic in its organization can been seen as a barrier and the opposite as an enabler. However, if one knows the management style and structure of an organization, leaders with strategic and tactical flexibility, good communication skills, and personal contacts in the organization can be very effective. Hence, separating enablers and barriers is sometimes a futile exercise when discussing leadership.

Similarly, community enablers and barriers have two sides: enabling (as in the pressure applied by special interests or circumstances) or impeding (as in social norms that are obstacles to public health interventions). Again, separating those factors can present problems in analysis – is a particular factor an obstacle in some instances and an enabler in others? Distinguishing them for the purposes of discussion is an intellectual exercise at best, and fodder for further discussion and debate, which can be very informative and strategic as long as it does not paralyse action.

Within the health system as a whole, because it is a small component, public health suffers from lack of profile and public visibility. Again, this can be viewed as a barrier (e.g., in terms of funding) but also as an enabler (e.g., an imperative to build partnerships and collaborate with others; the ability to operate "under the radar"). Because of its community connections, public health leaders can give voice to issues that lead to population health inequities, advocate for healthy public policies that do not affect the larger system, and by virtue of their evidence base are called upon by the media to

communicate with the public when issues arise (e.g., communicable disease outbreaks, screening and prevention clinics, public health emergencies, water and air pollution problems). Therefore, although the public health sector at times is characterized by chaos and crisis, public health leaders can thrive and move the public health agenda forward at such points.

As a final stage in our analysis, we created two word clouds; one from the most common 50 words coded in the scholarly literature (Figure 4) and the other from the most common 50 words coded in the grey literature (Figure 5). We compared them as part of a validation process and noted the high degree of similarity in the most prominent words in each cloud: public, health, leaders, leadership, management, nursing, community, develop, among others. We conclude from this analysis that the contents of the grey and scholarly literature are comparable.

5. Discussion

Three goals must be met to develop stronger leadership: 1) to create a common framework that defines what modern leadership in a complex health system is and establishes a common language for individuals across organizational boundaries or professions; 2) to develop more leaders who embrace those capabilities; and 3) to engage Canadian health organizations (delivery, professional, voluntary and academic) in a concentrated effort to create learning opportunities for people and organizations; to implement succession planning and performance management; and to consolidate resources for leadership development and recruitment. (Dickson 2007, p.1)

Dickson (2007), as quoted above, identifies some of the challenges facing the Project on

Figure 4. Scholarly Literature

Figure 5. Grey Literature

developing a national consensus on public health competencies. The results of this literature review point to the need for a major paradigm shift in how public health leadership is conceptualized and operationalized in Canada. This shift is called for by a number of trends: the maturation of the field of public health itself; the history of Canadian foresight and change in the field of public health with its emphasis on population health and health promotion; crises that require public health responses (e.g., natural and manmade disasters) that may not be predictable (e.g., floods, fires, mass shootings, return of tuberculosis, housing crises); concurrent shifts in academic studies of leadership in general; and shifts in industry and corporations in how they see leadership in terms of a social licence to do business, social accountability, and a recognition that women may bring a different lens and are an important aspect of boards of directors (i.e., gender matters). Even if we do not expect everyone to operate with the same definitions, achieving a national consensus that moves the public health sector away from the hero model of leadership to understanding the role of context and teams and transformational leadership would be a major contribution to advancing the field. When working with communities it is important that these different approaches to leadership be valued and assessed as outcomes.

In addition, the context in which public health leadership competencies are being assessed has changed substantially in the last two decades, particularly due to factors such as globalization, technological changes and information flow. Numerous examples exist underpinning the notion that the self-interests of people in wealthy countries such as Canada are met when public health in other countries, including the low and middle income countries, is optimized (Yach & Bettcher 1998). Technological advances have made it possible to institute international monitoring systems (Mykhalovskiy & Weir 2006) and climate change is an international problem that can be solved only with collaboration across borders (Haines, Kovats, Campbell-Lendrum, & Corvalan 2006). Information flow within and between countries has increased due to the internet and other communication technologies. These changes are just a few that have contributed to the complexity of public health practice in the 21st century. Complexity is further underscored in the recognition that we are not dealing with a heath *system* in Canada, but rather with multiple systems within systems, where local, provincial and federal policies and geographies interact (Simpson 2012). On top of this complexity is the presentation of health inequities as complex and "messy" public health problems that are not easily assessed and often not successfully treated on an individual basis (e.g., domestic violence, homelessness, traffic fatalities, suicide, addiction) or a population basis (e.g., homelessness, poverty, health disparity in ethnic and Aboriginal peoples).

The literature on public health leadership is virtually silent on the topic of inequity. There remains in Canada a lack of clarity in public health discourses between health equity and inequality. While there is a great deal of overlap in the problems implied, the discourses and related analyses have led to quite different foci and recommended policies and actions (Collins & Hayes 2007). This has implications for the kind of competencies that are envisioned to reduce health inequities. Health inequalities are more easily discussed without ever raising disparities or discrimination and can therefore be viewed as solvable by the public health system readjusting itself, for instance, adding another program, more staff or improving quality of care. Inequities are by definition unfair and therefore require competencies that enable changes in the structures that have created them. This lack of clarity, along with the paradigm shift occurring in

leadership studies, may explain in part the lack of clarity that we found in definitions and conceptions of public health competencies. People are, in fact, talking about different needs.

In complex adaptive systems (CAS) such as in public health, however, it is not clear that a common language and agreement on definitions is essential to moving ahead at the local level. As Uhl-Bien, Marion and McKelvey (2011) propose, CAS are very context specific. It is generally agreed in public health that local people understand the values and politics of their community best; however, policy change can occur at international and national levels that may affect provincial and local policies (Thurston et al. 2005). Notwithstanding the challenges that many people have in participating in policy development (Cleaver 2001, Cornwall 2008) and the lack of equity built into participation processes (Cornwall 2008), it is the local policy community that can best assess windows of opportunity for change and what language would best move an equity agenda forward. The local policy community comprises those who share an interest in a policy and who are networked through relationships, coalitions and so on (Thurston et al. 2005).

The literature review suggests that there is much work to be done in terms of consolidating a new view of what leadership entails. It may be that the field of public health is lagging behind the corporate sector in this regard, a question worth asking but which we cannot provide an empirical answer to with this review. In the focus in the literature on characteristics of leaders it is clear that leadership is seen as a function of individuals and is imbued with relational attributes. Leaders are said to be trustworthy, dependable, likeable, and so on. Uhl-Bien (2011) classifies this as the "entity perspective" where the entity has the capacity to create and control order (p.77). In the entity perspective there are discussions of leaders and followers, charisma and development and maintenance of charismatic relationships, relational and collective identities, relational ties, relationship quality, and network theory. The entity perspective "presume[s] an individually constituted reality, which conveys a view of leadership as a more individually-based, causal set of factors in the design and development of organizations" (p.85). The manager-subordinate relationship is assumed, which helps explains why so much of the literature reviewed confuses management and leadership qualities. The "relational perspective", however, is based on the premise that assumptions, thoughts, opinions, etc. are not internally developed but are co-constructed in relationships. In this perspective language and communication play a key role in social relations and are inseparable from context. Uhl-Bien (2011) notes that we know little about how relationships develop in the workplace because relational leadership research has not addressed this central issue. She suggests that we need a "consideration of how leadership arises through the interactions and negotiation of social order among organizational members" (p.103). For instance, Fletcher (1999), in a study of engineers in a technology company, found that "commonsense definitions of work, success, and competence in organizations were not gender-neutral terms" (p.4). She identified how a great deal of networking and productivity support was done by women outside of what was considered the production activities. She referred to these as "relational practices" (p.48). To understand the building of relationships, networks and collaborations seems to be an important goal if we are to understand interdisciplinarity and cross-sectoral collaboration, both of which are posited to be necessary to solve critical public health problems.

The developing focus on what can be called transformational leadership is a good starting point for changing our understanding of leadership and what is needed to respond to the health challenges facing Canadians. Transformational leaders are not the heroic leaders, who must know all and take responsibility (some would say, credit) for the decisions that are made. Transformational leaders can allow the creativity of team members to blossom in finding innovations to address the messy problems of public health. Puccio, Mance and Murdock (2011) place creativity at the centre of transformational leadership. It is defined as "the production of original ideas that serve some purpose" (p.23) and is distinguished from production of "fads", "repeating past mistakes", and even positive outcomes, called "utilitarian products" or programs, that continue to serve well the purpose for which they were designed and that require no modification (p.23). Thus creativity is defined in terms of both novelty and utility.

The literature does not discuss competency in putting teams together. This requires a welcoming of diversity and deliberate mixing of skill sets. Schacter (2013) quotes Chelsea Vandiver as having identified four roles that are needed for successful teams: the generator of great ideas; the editor who helps narrow down the choices; the maker who identifies challenges to implementation; and the collaborator who makes sure that the "alchemy" works. "What ultimately makes team alchemy such a useful concept is that it recognizes there are different ways to be competent…. Just as every project requires a different mix of skills, every team size works best with a different mix of roles. There are plenty of combinations that work, and many more that don't" (quoted in Schachter 2013, p.B5). Puccio, Mance and Murdock (2011) also talk about teams in terms of the creative process using words similar to Vandiver: clarifier, ideator, developer, and implementer (p.255). What Fletcher (1999) identified as relational practices of female engineers relates closely to the team building skills identified: ensuring that tasks get done that will preserve the project even if they were outside of her job description; "minimizing power and status differences" to facilitate project completion; mutual empowerment; learning from experience and monitoring the emotional context to assess appropriateness of responses; fostering a relational context in which the group could flourish, often including "intangible outcomes", such as, "cooperation, trust, mutual respect, and affection, as well as attitudes, values, and new ways of thinking about things" (p.83).

The literature is silent on how the transformational leader is to survive in the bureaucratic health systems that characterize the Canadian scene, where terms like efficiency have come to dominate. Do these systems allow the flexibility for transformational leadership? Can a leader pull together different teams comprising people with different skill sets, or are they confined to working with the people who have been hired as public health experts, with long-term job expectations? Some of these questions are addressed in the complexity leadership theory (CLT) proposed by Uhl-Bien, Marion and McKelvey (2011) who criticize transformational leadership as ignoring the context in which leadership is performed. CLT seems particularly applicable to understanding the issue of national public health competencies in the 21st century. The authors draw upon complexity science and define CAS as "changeable structures that emerge at multiple, overlapping hierarchies within interactive, interdependent networks of agents" (p.110). As we think about the many public health agencies across Canada and the roles of PHAC and CPHA, universities, and professional associations, this definition seems applicable to the Canadian public health constituency.

The literature is also silent on how educational systems are to train the new type of leader. A framework for interprofessional collaborative practice has been championed through the Canadian Interprofessional Health Collaborative (CIHC 2010). While the focus is mainly on the "patient", in public health we can think in terms of the community. Six competency domains are specified by the CIHC: "interprofessional communication; patient/client/family/community-centred care; role clarification; team functioning; collaborative leadership; and interprofessional conflict resolution" (p.9). In academia, community engaged and participatory scholarship has been viewed as detrimental to academic careers and therefore discouraged. In Canada and the United States this is being addressed in a national project, Rewarding Community-Engaged Scholarship: Towards the Transformation of University Policies & Practices, involving eight universities[2], representing a trend towards a more public health focused process.

The literature was also silent on creating cultural safety in public health practice, a practice that is essential for working with Aboriginal peoples (Oelke, Thurston, & Arthur 2013) but which would have a paradigm shifting impact on all practice as interprofessional teams would have to make explicit what power meant and how it was to be handled in the team.

Moving beyond cultural safety, to cultural advocacy, interprofessional team members are responsible to identify recurring issues and work to mobilize resources for health and well-being addressing ongoing systemic barriers. As healthcare providers we need to ask patients and community representatives about their needs and whether their needs are being met by the care provided. The importance of building relationships (e.g., trust) cannot be underestimated in moving toward cultural competency. Continual self-reflection on our practice is critical for ongoing evaluation of cultural competency of our care. (Oelke, Thurston, & Arthur 2013, p.369)

CLT stresses that leadership is a process: "a complex interactive dynamic - a network based process in which a collective impetus for action and change emerges when heterogeneous agents interact in ways that produce new patterns of behaviour or new modes of operating" (Uhl-Bien, Marion, & McKelvey 2011, p.110). CLT depends on context: "the fabric of interactions among agents (people, ideas, etc.), hierarchical divisions, organizations, and environments … in which patterns over time must be considered and where history matters" (Uhl-Bien, Maroin, & McKelvey 2011, p.110). Leadership is "a complex interactive dynamic" and "leaders are individuals who act in ways that influence this dynamic and the outcomes". CLT distinguishes managerial and leadership processes. Complexity leadership is required when "new learning, innovation, and new patterns of behaviour" are required whereas management applies known solutions (Uhl-Bien, Marion, & McKelvey 2011, pp.110-111). The role of managers is to allow informal networks that can take advantage of the knowledge explosion to develop while maximizing the benefits of close monitoring, centralized goals, etc., and to build teams with the necessary diversity that can work across groups. Management competencies include: fostering diverse networks; assembling teams that can work across groups within the organization; creating conditions where transformational leaders can emerge; fostering interaction and interdependency among members; creating sufficient internal and external tension to motivate interaction and action; allowing autonomous behaviour in solution seeking; keeping the formal

[2] Memorial University of Newfoundland, University of Guelph, York University, University of Saskatoon, University of Regina, University of Alberta, University of Calgary, University of Victoria.

administrative systems and structures and the CAS working towards the same ends, which may mean convincing parts of the hierarchy not to interfere; helping to develop a pro-innovation organization; managerial planning for creativity with uncertainty accepted; ensuring flow of information; ensuring diversity in staff; and avoiding the 'cloning' phenomena where all personnel are basically similar. The difficulty with CLT for this Project, however, is that it pushes us away from seeing leadership as individually held competencies and towards a process model that takes account of the way in which public health work is organized.

6. CONCLUSIONS

Public health leadership and public health management are, according to much of the literature, different. Whether leadership is an aspect of management or is a competency in itself is contested in the literature.

There is a great deal of confusion among the terms used in the leadership and competencies literature. Because public health action is most often operationalized by teamwork, all professions engaged in the enterprise must operate from a similar perspective (and reasonably similar language) in order to better understand and effectively engage with each other to achieve the goals of public health.

While leadership is defined by PHAC, that definition does not address the contemporary challenges facing the public health sector, such as chronic health problems and health inequity. Chronic disease is becoming more prominent than ever in matters that the public health sector confronts, as compared to several decades ago when communicable disease was of greatest concern. The social determinants of health loom large as we move into the 21st century, yet the issues of reducing disparity and promoting health equity are absent in the definition of leadership in public health.

Population health equity is one of the goals of public health. We need to understand how to empower public health leadership towards achieving that goal.

There is no question about the importance of leadership in public health. However there is currently a gap in the existing literature that has examined in a systematic way what excellence in public health leadership means in terms of outcomes. How public health leadership influences population health outcomes and the health status of Canadians remains elusive.

Emerging perspectives and theories of leadership are beginning to appear in the public health literature. For example, teamwork, collaboration and change management are becoming more common in the recent literature. There is a strong drive toward transformational leadership and away from the trait (hero, great man) approaches common in the past.

Critical competencies for transformational public health leaders include those related to cognitive skills (e.g., critical and systems thinking, visioning, communication, change management, and strategic flexibility); communication capacity in multiple media and crisis management skills; interprofessional, intersectoral and political negotiation and collaborative skills; and teamwork, relational and group capacity building skills.

There is a need to better understand the gendered nature of public health; there was virtually no literature identified in the review that addressed gender in public health leadership.

To overcome the many obstacles to leadership in the public health sector, leaders must put to use the equally numerous facilitators embedded within their teams, groups, organizations, and community partners. While every public health initiative has unique circumstances, impediments can be overcome by judicious use of the skills inherent in the competencies described as transformational leadership that foster an environment of empowerment and collaboration.

The bulk of the literature for this review emanated from the United States and the United Kingdom and is largely from the public health nursing field. This limitation creates a potential bias in understanding public health leadership in Canada and across all public health disciplines of interest.

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Appendix A.
Mapping the Public Health Agency of Canada (PHAC) leadership competencies to discipline specific leadership competencies

7.1 DESCRIBE THE MISSION AND PRIORITIES OF THE PUBLIC HEALTH ORGANIZATION WHERE ONE WORKS, AND APPLY THEM IN PRACTICE	
PH Dental	• 8.1 Support the mission and priorities of the public health organization where one works. Example: Identify the priorities of the program to clients • 8.10 Operationalize the mission of the organization within unit's scope of work. Example: Organize a workshop to develop a plan for making the mission obvious within the literature describing a new program • 8.14 Develop a strategic vision for dental health within the organization. Example: Engage dental staff in developing an oral health strategy within the organization's mission and vision
PH Inspection	• T7-4 Explain the mission and priorities of the environmental public health organization where one works
Public Health Nursing	• Describe mission and priorities of the public health organization where one works, and apply them in practice
Community Health Nursing	• Currently no standard developed to link this competency
Medical Officer of Health	• 7.1. Evaluate the politically challenging environment in which one works and operate effectively within it • 7.7. Set priorities and maximize outcomes based on available resources
PH Epidemiology	• No leadership competencies map to this PHAC leadership competency
PH Nutrition	• No leadership competencies map to this PHAC leadership competency
Health Promotion	• No leadership competencies map to this PHAC leadership competency

7.2 CONTRIBUTE TO DEVELOPING KEY VALUES AND A SHARED VISION IN PLANNING AND IMPLEMENTING PUBLIC HEALTH PROGRAMS AND POLICIES IN THE COMMUNITY	
PH Dental	• 8.2 Contribute to developing key values and a shared vision. Example: Participate in a staff meeting focused on the revision of program goals • 8.6 Contribute to implementing public health programs and policies in the community. Example: Support parents and community people to establish a low-cost dental clinic in a local community center
PH Inspection	• T7-6 Explain the key values of the organization(employer) and follow shared vision in the planning and implementation of environmental public health programs and policies in the community • T7-10 Recommend and apply key values of environmental public health programs and policies in the community
Public Health Nursing	• Contribute to developing key values and a shared vision to assess, plan and implement public health programs and policies in the community by actively working with health professionals and in partnership with community partners to build capacity

Community Health Nursing	• Standard 2.9 - Actively works with health professionals and community partners to build capacity for health promotion
Medical Officer of Health	• 7.3. Identify a strategic direction and vision for health and wellbeing and communicate it consistently to a wide range of people and agencies • 7.5. Lead effectively in uncertain or ambiguous situations • 7.6. Apply effective leadership styles appropriate to particular situations and circumstances
PH Epidemiology	• No leadership competencies map to this PHAC leadership competency
PH Nutrition	• No leadership competencies map to this PHAC leadership competency
Health Promotion	• No leadership competencies map to this PHAC leadership competency

7.3 Utilize public health ethics to manage self, others, information and resources	
PH Dental	• 8.3 Act ethically with clients, information and resources. Example: Store records in a safe place. Protect the identity of clients when communicating information • 8.7 Manage self, information and resources in a way that honours public health ethics. Example: Maintain confidentiality of identified internal processes. • 8.17 Manage resources to achieve optimal oral health and wellbeing. Example: Demonstrate accountability to the organization's leadership
PH Inspection	• T7-3 Explain the PIPHI Code of Ethics to manage self in all areas of environmental public health, and act ethically with clients, information, resources • T7-17 Evaluate and provide direction and empathy when presented with staff concerns related to situations experiences in the field
Public Health Nursing	• Use public health and nursing ethics to manage self, others, information and resources and practice in accordance with all relevant legislation, regulating body standards and codes (e.g. provincial health legislation, child welfare legislation, privacy legislation, Canadian Nurses Association Code of Ethics for registered nurses)
Community Health Nursing	• Standard 3.9 - Maintains professional boundaries in often long-term relationships in the home or other community settings where professional and social relationships may become blurred • Standard 3.10 - Negotiates an end to the relationship when appropriate (e.g., when the client assumes self-care or when the goals for the relationship have been achieved)
Medical Officer of Health	• No competencies map to this PHAC leadership competency
PH Epidemiology	• I1 Be accurate, meticulous and organized in one's work • I2 Be effective time managers, able to prioritize and complete multiple tasks • I4 Constantly evaluate one's abilities, knowledge and skills, and know one's socio-cultural professional limitations
PH Nutrition	• No leadership competencies map to this PHAC leadership competency
Health Promotion	• No leadership competencies map to this PHAC leadership competency

7.4 CONTRIBUTE TO TEAM AND ORGANIZATIONAL LEARNING IN ORDER TO ADVANCE PUBLIC HEALTH GOALS	
PH Dental	• 8.4 Contribute to team and organizational learning. Example: Help new workers understand the importance of record keeping • 8.8 Contribute to team and organizational learning to advance public health goals. Example: Participate in the development of guidelines for end-of-life oral care in residential care facilities • 8.11 Create learning opportunities and build strong oral health teams with different skills sets. Example: Establish polices to support regular learning opportunities • 8.12 Mentor others in their professional development initiatives. Example: Assist others to identify their performance goals and objectives. Assist others in the development of their learning plans
PH Inspection	• T7-5 Assist employer organization to become/stay evidence based • T7-9 Assess issues and recommend policies and practices that advance public health goals and organizational learning • T7-13 Design, develop, and implement continuing education sessions for peers, and related stakeholders on successes and challenges in delivering applicable environmental public health programs
Public Health Nursing	• Contribute to team and organizational learning in order to advance public health goals
Community Health Nursing	• Standard 5.15 - Seeks professional development experiences that are consistent with current community health nursing practice, new and emerging issues, the changing needs of the population, the evolving impact of the determinants of health and emerging research
Medical Officer of Health	• No competencies map to this PHAC leadership competency
PH Epidemiology	• No leadership competencies map to this PHAC leadership competency
PH Nutrition	• No leadership competencies map to this PHAC leadership competency
Health Promotion	• No leadership competencies map to this PHAC leadership competency

7.5 CONTRIBUTE TO MAINTAINING ORGANIZATIONAL PERFORMANCE STANDARDS	
PH Dental	• 8.5 Contribute to maintaining performance standards in oral health. Example: Report infractions of infection control guidelines • 8.15 Evaluate organizational performance in relationship to recognized standards. Example: Develop standards and guidelines related to performance for individuals, programs and organizations. Evaluate dental public health human resources using the organization's standards and guidelines
PH Inspection	• T7-2 Explain performance standards in all public health programs • T7-8 In committees, evaluate, explain and use best practices and incorporate relevant guidelines into policies and practice • T7-12 Analyze program activity data for inclusion in the organization's annual performance report • T7-14 Design, implement, and evaluate quality assurance processes of all programs, policies and best practices • T7-16 Implement and evaluate information about the economic and political implications of decisions

Public Health Nursing	• Contribute to the maintenance of organizational performance standards
Community Health Nursing	• Standard 5.10 - Contributes proactively to the quality of the work environment by identifying needs, issues and solutions, mobilizing colleagues and actively participating in team and organizational structures and mechanisms
Medical Officer of Health	• 7.4. Contribute effectively to organizational change and implementation of policy • 7.8. Understand human resources principles and practices
PH Epidemiology	• No leadership competencies map to this PHAC leadership competency
PH Nutrition	• No leadership competencies map to this PHAC leadership competency
Health Promotion	• No leadership competencies map to this PHAC leadership competency

7.6 DEMONSTRATE AN ABILITY TO BUILD COMMUNITY CAPACITY BY SHARING KNOWLEDGE, TOOLS, EXPERTISE AND EXPERIENCE	
PH Dental	• 8.9 Demonstrate an ability to share knowledge, tools, expertise and experience. Example: Contribute to collective knowledge on topics discussed at staff meetings • 8.13 Advocate for and secure resources to promote oral health. Example: Work with community groups to gain grants from charitable organizations. Prepare internal funding proposals for consideration by the organization's management • 8.18 Build the capabilities of the dental public health workforce. Example: Support continuing competence through participation in dental public health conferences • 8.19 Build on successes to increase the capacity of the system. Example: Critique evaluations of dental programs to identify successes and failures. Identify successes in the organization's programs that contribute to the success of oral health components • 8.16 Build alliances and partnerships within changing political environments. Example: Initiate communication with key leaders in the changing environment
PH Inspection	• T7-1Identify solutions to environmental public health problems with guidance from other CPHI (c) holders as applicable • T7-7 Explain and share knowledge, tools, expertise, and experience, e.g. in mentoring situations • T7-11 Research and apply learning opportunities to environmental public health staff to build strong teams with different skill sets, and to promote sharing of knowledge, tools, expertise, and experience • T7-15 Evaluate the historical development, structure and interaction of environmental public health and health care systems at the local, provincial/territorial, national, and international levels
Public Health Nursing	• Demonstrate an ability to build capacity by sharing knowledge, tools, expertise and experience: • participate in professional development and practice development activities • mentor students and orient new staff • participate in research and quality assurance initiatives

Community Health Nursing	• Standard 5.5 - Participates in the advancement of community health nursing by mentoring students and new practitioners • Standard 5.9 - Identifies and works proactively—through personal advocacy and participation in relevant professional associations—to address nursing issues that will affect the population. • Standard 5.11- Provides constructive feedback to peers as appropriate to enhance community health nursing practice
Medical Officer of Health	• 7.2. Build and sustain strategic alliances and partnerships, especially within politically challenging environments decisions
PH Epidemiology	• I3 Interact/work sensitively and effectively with persons from diverse backgrounds, health status, and lifestyle preferences
PH Nutrition	• No leadership competencies map to this PHAC leadership competency
Health Promotion	• 6. Engage in partnership and collaboration that includes: • 6.1. Establishing and maintaining linkages with community leaders and other key health promotion stakeholders (e.g., schools, businesses, churches, community associations, labour unions, etc.) • 6.2. Utilizing leadership, team building, negotiation and conflict resolution skills to build community partnerships • 6.3. Building coalitions and stimulating intersectoral collaboration on health issues

Appendix B.
Description sets of public health leadership roles and professions

Leadership Roles	Description
Community Leadership	• Community member not working in HC profession • Not a HC or PH professional • Policy people (presidents of associations, university professors, economists) • Spokespeople for community groups (poverty coalitions, police chiefs, aboriginal leaders, MADD, etc.)
Health Care (HC) Organizational Leadership	• Clinical leadership • Hospital leadership • HC leadership • Organizational leadership • Administrative and managerial roles do not preclude leadership
Health Promotion (HP) Leadership	• Study primarily focused on health promotion • Organizational leadership working in public health
Public Health (PH) Leadership	• Working as HC or PH professional or policy maker (e.g., surgeon general) • Local PH leader • PH Leadership Training • Community Health Leadership
Partnership Leadership	• Interorganizational partnerships, intersectoral partnerships
Profession	**Description**
Epidemiology	• PH epidemiologists • Primary care/clinical physician or other HC providers dealing with disease • Working in outbreak, infectious control, studying HIV/AIDS • Surveillance
Inspection	• Health inspectors • PH environmental
Medical Officers of Health (MOH)	• District medical officer • Health officer • Chief medical officer • Chief public health officer • These people might also be doing communicable diseases (as opposed to infection control) and public outbreaks, disaster planning
Nutrition	• PH nutrition
Nursing	• Clinical nurse • Nurse working in hospital/clinical setting • Midwife working in hospital
PH Dental	• PH dentist • Dentist working in public health, dentists doing PH work • Dental assistants and hygienists doing PH work/education
PH Management	• Manager in a community setting or health centre
PH Nursing	• Community nurse • Community health visitor • Nurse consultant working in public health • School nursing • PH midwife (visiting mothers in community)
Pharmacy	• PH Pharmacy

Appendix B.

Organizational Readiness Report

LEADERSHIP COMPETENCIES FOR PUBLIC HEALTH PRACTICE IN CANADA

ORGANIZATIONAL READINESS

ARDENE ROBINSON VOLLMAN, PhD RN
TINA STRUDSHOLM, MSc

Revised September 2014

Community Health Nurses of Canada

Community Health Nurses of Canada (CHNC) is a national organization for community health registered nurses to advance practice and to improve the health of Canadians. CHNC represents the voices of community health nurses; advances practice excellence; creates opportunities for partnerships across sectors and networks; strengthens community health nursing leadership; advocates for healthy public policy to address social and environmental determinants of health; and promotes a publicly funded, not for profit system for (community) health. CHNC is an associate member of the Canadian Nurses Association (CNA).

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Leadership Competencies for Public Health Practice in Canada

Organizational Readiness

Table of Contents

1. Background 1
2. Method 1
3. Results 2
4. Situational Assessment 3
5. Process Models 5
6. Lessons Learned From Implementation Studies 11
7. Conclusions 12

References 14

Appendix 1. Cited Articles and Abstracts 17
Appendix 2. NCCMT Summary of EBDM Capacity Survey Tool 31
Appendix 3. NCCMT Summary of ORCA 36

Leadership Competencies for Public Health Practice in Canada

Organizational Readiness

The purpose of this document is to report on a scoping review of the literature on organizational readiness in public health organizations in Canada, related specifically to the introduction and adoption of leadership competencies for public health practice in Canada.

1. Background

Experts in change management, whether change at the individual or organizational level, emphasize the importance of addressing three characteristics relevant to the process: change commitment, change efficacy and implementation capability (Weiner, 2009). In this report, we focus on the organizational level as one part of the Environmental Scan component of the Leadership Competencies for Public Health Practice in Canada (LCPHPC) Project. The information reported here will support collective system wide adjustments that will facilitate implementation of the leadership competencies for public health identified through the LCPHPC Project.

Weiner (2009) describes readiness for change as a multi-level and multi-faceted construct that refers to organizational members' shared resolve to implement a change (change commitment) and shared belief in their collective capability to do so (change efficacy). Weiner theorizes that, along with how highly the change is valued, three key determinants of capability can affect implementation: task demands, resource availability and situational factors.

Although behaviour change at the individual level has been the subject of much research (e.g., Lewin, 1947; Bandura, 1997; Prochaska & DiClemente, 1984), there is little empirical evidence of its transferability to the study of change at the organizational level (Weiner, Amick, & Lee, 2008; Holt, Armenakis, Harris, & Feild, 2006). Questions related to organizational change remain, including: What is necessary to effectively implement change in an organization, and how (and how well) does the change produce results? How success is defined and what defines the ultimate outcome are subject to debate – that is, is change the result of the innovation or the result of the implementation process?

This report will describe the public health literature in terms of situational assessment and then describe the processes recommended for implementation of change in public health. Lessons learned and recommendations gleaned from reports of organizational change efforts will conclude the report.

2. Method

To identify studies relevant to organizational change in public health, the following electronic databases were searched: MEDLINE, CINAHL, EMBASE, Scopus, Web of Science, PubMed, PubMed Central, Evidence Based Medicine Review, SocIndex, and Business Source Complete. The key search string used included

the following terms: “Organizational readiness” OR “organizational preparedness” OR “organizational compliance” OR “organizational objective” OR “organizational change” OR “organizational innovation” AND “Public Health” AND “Leadership.” The same search terms were used in search engines and specific websites to identify grey literature. Two search engines, Google™ (www.google.ca) and Bing (www.bing.com), were used, and the website of The National Collaborating Center for Methods and Tools (NCCMT) (www.nccmt.ca) was browsed. Literature was also identified upon review of reference lists of studies located and through recommendations from research and practice experts in the fields of leadership and organizational change.

Search results of electronic databases were screened for relevant articles. Because of the paucity of research, it was possible to limit exclusion/inclusion criteria and thereby capture a broad and comprehensive portrait of existing research in the area of organizational change in public health. Relevance of major subjects and/or topics of discussion were determined by scanning titles, abstracts, executive summaries, and then full texts as necessary. Articles that were not in English or French, and articles about tangential topics such as emergency preparedness were discarded.

3. RESULTS

The search strategy provided 989 citations (duplicates removed) from electronic databases. Upon screening titles and abstracts, 95 of these citations were retained. After full-text review, a final number of 46 citations from the electronic databases were determined to be relevant. These were categorized into three major subject areas: Public Health (PH) Organizational Readiness, Health Care (HC) Organizational Readiness, and Other Organizational Readiness. In addition, 5 grey literature sources and 11 citations from review of reference lists and expert recommendations were identified as relevant. This brought the total number of citations in this review to 62. (See Table 1.)

Appendix A provides a listing with summaries as provided by authors for those citations referenced in this literature review.

Table 1. Sources, subject areas and citations

Sources	Subject Areas	Number of Citations
Electronic Databases	PH Organizational Readiness	8
	HC Organizational Readiness	16
	Other Organizational Readiness	22
Grey Literature		5
Expert recommendations		11
	TOTAL	**62**

4. Situational Assessment

In this section, we will present the factors that relate to organizational change, and describe the frameworks and tools that measure these factors. The terms "evidence-informed" and "evidence-based" are used interchangeably by authors of the literature cited. We prefer the term "evidence-informed" as used by the National Collaborating Centre for Methods and Tools (NCCMT): evidence from multiple sources is reviewed systematically, critiqued for fit with the context, and then used to make decisions.

Nelson, Raskind-Hood, Galvin, Essien, and Levine (1998) surveyed employees in a public health organization regarding their readiness to implement an innovative partnership and found that six factors (in ranked order) had the greatest impact on the organizations' ability to change: leadership, planning, teamwork, mission, information, and operations. While they published reliability and validity data for their small study, no larger-scale projects have used their instrument.

Rycroft-Malone (2004) underscored the importance of context as part of an organizational readiness assessment. In the *Promoting Action on Research Implementation in Health Services* (PARiHS) framework, context is viewed as a potent mediator of the implementation of evidence into practice. Context refers to the setting or environment into which a change is to be implemented – the contextual factors that promote successful implementation are culture, leadership and evaluation (p.299). Rycroft-Malone asserts that "learning organizations" are more conducive to change facilitation because of their culture. Decentralized decision-making, emphasis on relationships between managers and staff, and a supportive management style are characteristics of organizations that facilitate the implementation of change. Leaders, in particular those who are transformational, are influential in shaping the organizational context; they are inspiring, enabling and caring. Measurement and evaluation also play an important role in shaping readiness for implementation. Organizations where evaluation relies on broad and multiple sources of evidence tend to be more receptive to change than those that do not have strong evaluation cultures.

In a systematic review of the dimensions of community and organizational readiness for change, Castañeda et al. (2012) cited four components of readiness: climate, attitudes and current efforts, commitment to the change, and capacity to implement the change.

Peirson, Ciliska, Dobbins, and Mowat (2012) found the critical factors and dynamics for building organizational capacity to implement evidence-informed decision-making in a Canadian public health organization to be leadership, organizational structure, human resources, organizational culture, knowledge management, communication, and change management. Parmelli et al. (2011), noting the increasing emphasis on organizational culture to improve performance, conducted a review to determine the effectiveness of strategies aimed at changing organizational culture. He found that current available evidence does not identify any effective generalizable strategies to change organizational culture.

Cohen et al. (2013) developed a conceptual framework for assessing *organizational capacity for public health equity action* (OC-PHEA) at local and regional levels in Canada. This framework recognizes the internal context of the organization and calls for an enabling external environment to create action. A key concept of the OC-PHEA framework is the organizational capacity for equity action – the capability to identify inequities, mobilize resources, and take action to reduce them. For optimal action, there

needs to be shared values, enabling internal infrastructure, and external commitment and will to take action (p.264). This model is very recent, and while conceptually sound, it needs application to practice and measurement tools for each dimension in order to make it practical for use in the near term.

Jacobs et al. (2012) developed a tool to assess the capacity of the public health workforce in Kansas and Mississippi (USA) to use evidence in decision-making (see summary in Appendix B). Developed to support implementation of evidence-based interventions in chronic disease, the instrument measures practitioner self-efficacy and competencies and organizational capacity for evidence-based public health practice. It includes demographic questions and provides resources for evidence-based decision-making but there is no evaluation data to support it.

Wild and Fehrenbach (2004) devised a tool for public health practitioners to assess the readiness of their organization to plan and begin to implement a child health information system integration project. Focused on nine key elements – leadership, project governance, project management, stakeholder involvement, organizational and technical strategies, technical support and coordination, financial support and management, policy support, and evaluation – the tool poses 57 questions to guide discussion and identify action strategies. No reliability or validity data are provided, and the tool has not been evaluated.

Discovery Learning Inc. is a consulting firm that publishes reports on organizational development. Their *Research Summary 14* (2010 September) reported on an investigation of the dimensions of organizational readiness for change. The authors developed and evaluated assessment items, creating eight identified categories comprised in a four-quadrant model. The *Change Readiness Gauge* assesses several unique dimensions that measure an organization's readiness for change, including: change awareness, change agility, change reaction, and change mechanisms/systems. Tools are available to support the *Change Readiness Gauge*, but there are no case studies in the literature that report using this model. Materials are available at a cost after certification is achieved.

Helfrich et al. (2010) conducted a critical review of the PARiHS framework; twenty-four articles met their inclusion criteria. None used PARiHS prospectively to design implementation strategies. There was a general lack of detail about how variables were measured or mapped. Authors of literature included in the review called for greater conceptual clarity regarding the definition of sub-elements and the nature of dynamic relationships (p.1). However, Helfrich et al. identified the strengths of the model to be its flexibility, intuitive appeal, explicit acknowledgement of the outcome of successful implementation, and a more expansive view of what can and should constitute evidence (p.1). They agreed with Weiner (2009) that further development of measurement tools and careful sampling decisions were needed to further refine the model, and called for the implementation science community to develop consensus guidelines for reporting the use and usefulness of theoretical frameworks within implementation studies.

The *Organizational Readiness to Change Assessment* (ORCA) tool (Helfrich, Li, Sharp, & Sales, 2009) consists of 77 items in three scales: evidence assessment, context assessment, and facilitation assessment (see summary in Appendix C). Context assessment includes senior leadership culture, staff culture, leadership behavior, measurement (leadership feedback), opinion leaders, and general resources. Based on the PARiHS framework (Rycroft-Malone, 2004), ORCA also provides opportunity to assess the process of implementation. This tool has been used in health settings, and its validity and

reliability have been tested and found to meet acceptable standards. In the testing of measurement properties of the ORCA tool, Stamatakis et al. (2012) suggested that the scales derived from the survey tool may also be considered as implementation outcomes or markers of successful implementation processes (i.e., evaluating the shift from low to high implementation or to maintenance). The scales for the ORCA tool are readily available.

5. Process Models

In this section, we describe some common (and classic) organizational change theories. These theories provide the foundation for more contemporary models of organizational change.

Lewin's *Three-Step Change Model* (Burnes, 2004; Lewin, 1947) is a classic in organizational development and change. Postulated in the 1940s, it has stood the test of time. Lewin's three phases of change are:

1. **Unfreeze** by reducing the forces that are striving to maintain the status quo and by dismantling the current mind set, usually by presenting a provocative problem or event to get people to recognize the need for change and to search for new solutions.
2. **Transition to the change** by developing new behaviours, values and attitudes, sometimes through organizational structure and process changes and development techniques. There may be a period of some confusion as people move from the old ways of doing things to the new.
3. **Freeze (or re-freeze)** by anchoring the change into the new culture and placing a focus on maintenance. The organization may revert to former ways of doing things at this point unless the changes are reinforced.

In the Unfreeze phase, it is first important to determine what needs to change by surveying the organization to understand the current state, and helping people to understand why change has to take place. In this phase, evidence assessment is an important step (Rycroft-Malone, 2004). Next is to ensure there is strong support from upper management; there are tools in the literature to analyse stakeholder support (e.g., ORCA) and frame the issue. In creating the perceived need for change, communication strategies are critical. Compelling messages need to be created that support the vision and strategies and emphasize the "why" or benefits of the change proposed. Doubts and concerns will need to be managed in this phase.

The Change phase itself depends on clear and frequent communication to prepare for what is coming, explain how the change will affect people, describe the benefits of the change, dispel rumours, and empower action by involving people in the change process, training them in new processes, and generating early successes.

The Freeze phase is the stage of adaptation of ownership of the new 'as-is'. The key tasks are to identify those elements that support or impede the change and its maintenance, develop strategies to sustain the change (i.e., leadership support, reward systems, feedback systems, adaptations to structure), and provide ongoing support, training and transparent communication.

Peirson et al. (2012) described a change process in a Canadian public health context that mirrors the Lewin model (1947). The public health department felt a discrepancy between the newly implemented competencies for public health that required evidence-informed decision making (EIDM) and the actual support for access to research and desired performance levels regarding EIDM. This discrepancy between requirements and performance created dissatisfaction with the status quo. An appealing

vision of what "could be" and a confidence that a better future could be realized "unfroze" the Department and allowed the change process to begin. Leadership, champions, resources, and training were forthcoming to support the change process. At the time of writing, the Department had not yet "refrozen"; participants in the case study indicated that if there were a change in leadership the new processes for EIDM might not be sustained.

Lippitt, Watson, and Westley (1958) (cited in Burnes, 2004) extended Lewin's *Three-Step Change Model*, suggesting a seven-step process that focuses more on the role and responsibility of the change agent than on the evolution of the change itself. Information is continuously exchanged throughout the process. The seven steps are:

1. Diagnose the problem;
2. Assess the motivation and capacity for change;
3. Assess the resources and motivation of the change agent. This includes the change agent's commitment to change, power, and stamina;
4. Choose progressive change objects. In this step, action plans are developed and strategies are established;
5. The role (e.g., cheerleader, facilitator, expert) of the change agents should be determined and clearly understood by all parties so that expectations are clear;
6. Maintain the change. Communication, feedback, and group coordination are essential elements in this step of the change process; and
7. Gradually terminate from the helping relationship. The change agent should gradually withdraw from their role over time. This will occur when the change becomes part of the organizational culture.

Zheng et al. (2009) reported on a case study of the implementation of electronic health records in an ambulatory health setting. They used an adaptation of the Lippitt et al. model, identifying vision, skills, incentives, resources, and action plans that create desired results. If any component of the model is missing, undesirable results occur (e.g., confusion and conflict, performance anxiety, back sliding, frustration and anger, and false starts). The authors suggest the use of formative evaluation to monitor progress and adjust components accordingly to ensure successful implementation.

Social psychology has much to say about conditions under which people will take action. Social psychologists such as Bandura (1997, 2000) have explored the psychological motivators and processes underpinning collective action. Thomas, Mavor, and McGarty (2012), following van Zomeren, Postmes, and Spears (2008) integrative meta-analysis of collective action research, tested the *Social Identity Model for Collective Action* (SIMCA) postulated from that work. SIMCA (depicted in Figure 1) suggests that each of the efficacy, injustice, and identity explanations contribute uniquely to the prediction of the collective action. Thus, people will take action when they experience strong affective reactions to injustice, believe that their groups' actions can be effective (termed group efficacy by Bandura, 1997, 2000) and belong to social groups that can mobilize action. No information is provided about the reliability and validity of the tools used to measure the key constructs of the model.

Understanding how to motivate collective action and knowing what sorts of activities and strategies might be successful builds on these socio-psychological underpinnings. Thompson (2010) underscores that the nature of change in public health settings is non-linear, sometimes

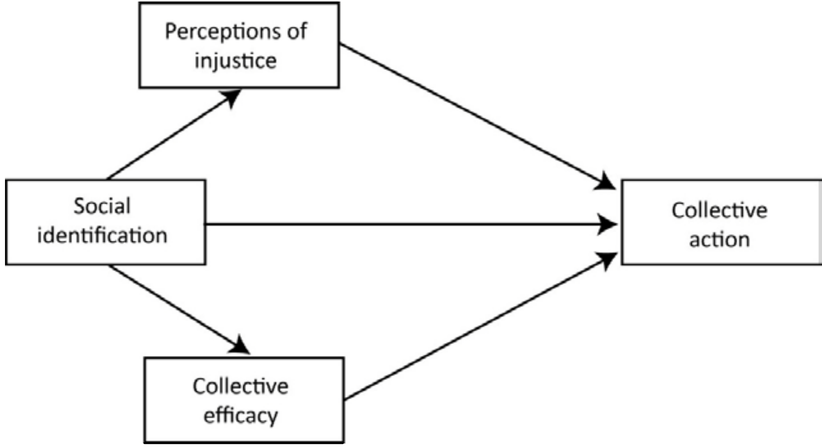

Figure 1. Social Identity Model for Collaborative Action (SIMCA) (van Zomeren et al., 2008)

chaotic, and fraught with issues and events outside the control of the organization and its leaders. Thompson goes on to suggest five managerial competencies that are required to build collective action: embrace change; employ a process; address support and resistance; foster organizational learning; and plan for succession with collective action for change in mind.

The role of opinion leaders, people who influence the opinions, attitudes, beliefs, motivations, and behaviours of others, has also been noted (Peirson et al., 2012; Shaw et al., 2012b). Opinion leaders can act as gatekeepers for interventions, help change social norms, and accelerate behavior change. Valente and Pumpuang (2007) reviewed ten techniques used to identify, recruit and train opinion leaders to promote change, and discuss the advantages and disadvantages of each technique and provide sample instruments for each.

Van Patter Gale and Schaffer (2009) explored factors that affect the adoption or rejection of evidence-based practice (EBP) changes and differences in nurse manager and nursing staff perceptions about those factors. They found the most common barriers to adoption were insufficient time, lack of staff, lack of the right equipment/supplies, inadequate training, and lack of information or interest. Reasons for adoption of EBP included interest in the topic, value of the practice change, consequences for patients, manager support, clinical educator support, and regulatory agency requirements. Incorporating EBP into the workplace requires developing a culture of inquisitiveness, openness, and continual emphasis on lifelong learning as a professional obligation.

Diffusion of Innovations (Rogers, 2003) is a theory that aims to explain how, why, and at what rate new ideas and technology spread through cultures. Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system (e.g., a public health organization). There are four main elements that influence the spread of a new idea: the innovation, communication channels, time, and a social system. This process relies heavily on human capital. The innovation must be widely adopted in order to self-sustain. The categories of adopters are: innovators, early adopters, early majority, late majority, and laggards (Rogers 1962, p. 150). Within the rate of adoption, there is a point at which an innovation reaches critical mass. *Diffusion of Innovations* manifests itself in

different ways in various cultures and fields and is highly subject to the type of adopters and innovation-decision process. Rogers' five stages of the innovation decision process are: knowledge, persuasion, decision, implementation, and confirmation. Further, Rogers defines several intrinsic characteristics of the innovation (change) that influence adoption: relative advantage; compatibility; complexity or simplicity; trialability; and observability.

Brach, Lenfestey, Roussel, Amoozegar, and Sorensen (2008) developed a workbook to assist organizations in the adoption and implementation of change following Rogers' theory. This workbook provides background, tools and case studies to aid in implementation. It contains modules on the topics of innovation fit, should we do it, can we do it, and how to do it, but has no evaluation data on its use (NCCMT, 2011).

Weiner (2009) posed a theory of organizational readiness for change wherein organizational readiness is conceived as a shared psychological state in which members of an organization feel committed to implementing a change and are confident in their abilities to do so (illustrated in Figure 2). The theory links the readiness literature and the implementation literature into a single theory. Based in the social cognitive field, it requires further testing and measurement to generate practical applications.

Ellen et al. (2013) studied the factors associated with knowledge translation (KT) from research to practice in Ontario and Quebec, noting the multiple factors involved (e.g., timeliness and relevance of research evidence, personal contact with researchers, and inclusion of summaries with actionable messages). Three main approaches to KT have been described as "push", "pull" and "exchange". Push efforts include activities usually undertaken by researchers or intermediary groups (either intermediary organizations or intermediary in the process, i.e., a position that is in between research producers and users such as librarians or knowledge brokers) to appropriately package and disseminate research evidence to potential knowledge-users. Pull efforts focus on the efforts by health system managers and policy-makers to access and use research evidence. Exchange activities focus on building and maintaining relationships among researchers and health system managers and policymakers.

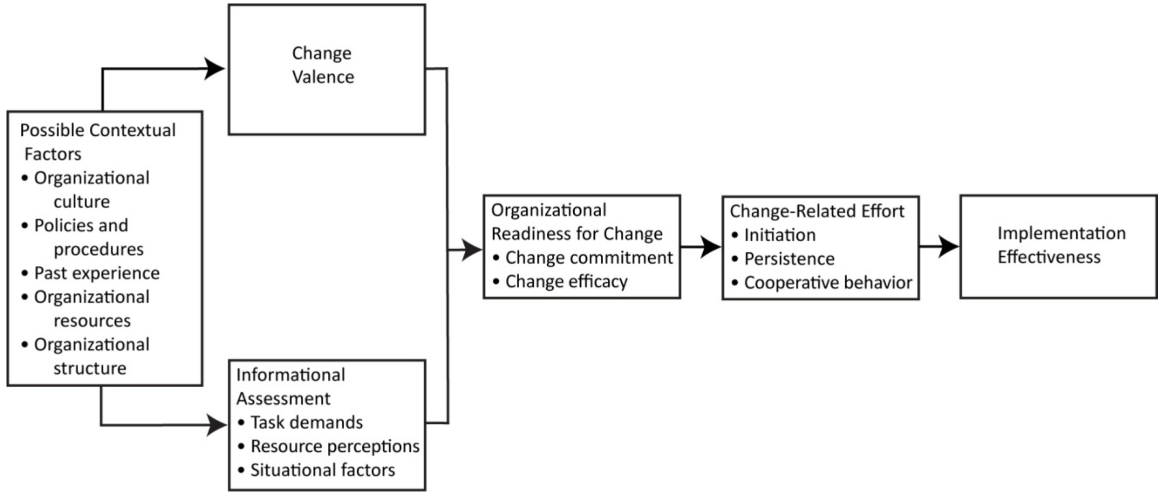

Figure 2. Determinants and outcomes of organizational readiness for change (Weiner 2009)

In a qualitative study to profile the supports that healthcare organizations currently have in place to facilitate EIDM, Ellen et al. (2013) developed a framework to address the infrastructure components needed to facilitate KT. Seven dimensions were reported: climate for research use; research production; push efforts; facilitation of pull efforts; pull efforts; linkage and exchange efforts; and evaluation efforts to link research to action. Each of these dimensions of infrastructure was explicated in the study by several process-related activities, but no instrument has been devised to date to measure the dimensions, their processes and the pathways to successful implementation.

Aarons, Hurlburt, and Horwitz (2011) proposed a multi-level, four phase model of the implementation process (i.e., exploration, adoption/preparation, implementation, and sustainment) that includes assessment of the outer and inner contexts within which the organization acts, and the fit of the innovation with the system and the organization. While they detail the components of each context and the internal processes to adoption of an innovation, no instruments or measures were proposed to assess these aspects, nor were the process pathways or determinants of success explicated.

Texas Christian University (Simpson, Flynn, Joe, & Lehman, 2011) devised a conceptual model of organizational change (Figure 3) and further explicated the implementation phase (Figure 4). A manual, including instruments with strong reliability and validity, is provided by the authors. In essence, the process begins with training and decision to adopt, then implementation begins, and if successful, changes in practice result. In preparing for implementation, organizational readiness is assessed. The *TCU Organizational Readiness for Change* (ORC) assessment focuses on organizational traits that predict program change and includes scales from four major domains—motivation, resources, staff attributes, and climate. A companion to the ORC is the *TCU Survey of Organizational Functioning* (SOF) which includes the ORC as well as nine additional scales measuring job attitudes (e.g., burnout, satisfaction, and director leadership) and workplace practices.

While there are promising elements in much of the literature, including a variety of theoretical and conceptual approaches to organizational readiness and change, solid evaluation of the success of organizational change efforts is piecemeal, perhaps reflecting the non-linear character of the process. In the next section we will consider what has been learned from case studies of organizational change in the public health and primary care sectors.

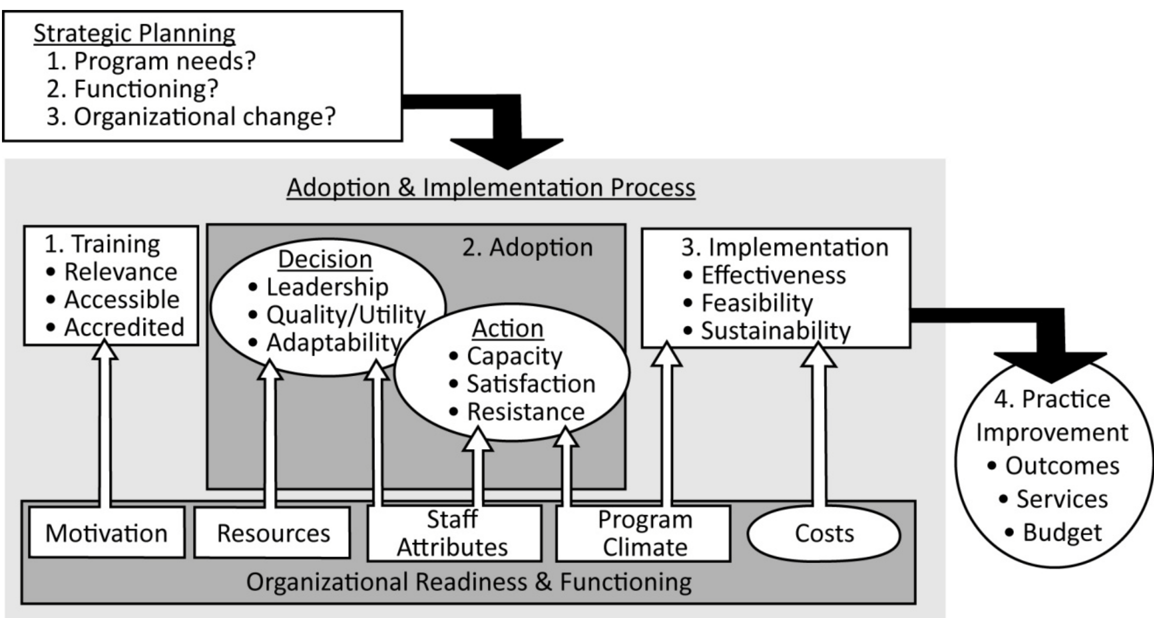

Figure 3. TCU Program Change Model (Simpson et al., 2011)

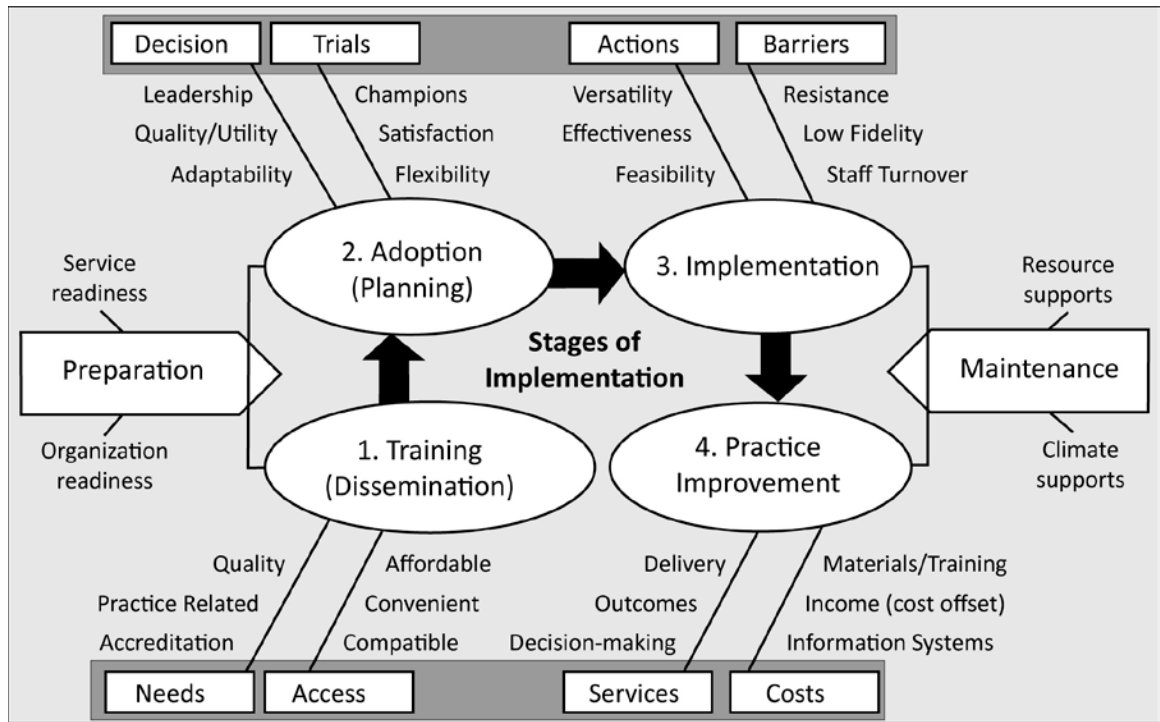

Figure 4. TCU Program Change Model – Implementation Phase (Simpson et al., 2011)

6. Lessons Learned From Implementation Studies

In examining the literature, many tips are found from authors for improving the implementation of evidence-informed innovations or changes into practice in healthcare organizations.

Balasubramanian et al. (2010) examined qualitative data from 25 primary care practices that participated in the *Using Learning Teams for Reflective Adaptation* (ULTRA) study to understand how they engaged in a team-based collaborative change management strategy and the types of issues they addressed. They found that while primary care practices can successfully engage in facilitated team meetings, leaders must be engaged in the process to ensure success. Additional strategies are needed to engage practice leaders, particularly physicians, and to target issues related to adherence to the change.

Barriers to implementing change by Canadian physicians in primary care practices were found by Skinner (2002) to be too little time, inadequate reimbursement, lack of resources and backup, and questionable support from their clinical chief. Role conflicts, insufficient training, and lack of ability to handle resistance further complicate the successful implementation of change. Skinner suggests that change requires a focus on both the individual and the organization, but says the organization must be addressed first.

Skinner addresses the question of "top down" versus "bottom up" strategies for implementation. Because organizational culture is a powerful shaper of individual behaviour, and vice versa, Skinner (2002) suggests that large and comprehensive changes require senior level leadership (top down strategies) to change culture and performance. He further notes that bottom up approaches operating at other levels of an organization can have incremental cumulative impacts on an organization. He concludes that "both approaches are vital for long-term success"(p. 67) and posits six strategies to guide organizational change: foster leadership (i.e., champions) at all levels; use a systematic protocol; develop systems; tailor the approach to the organization; work with complexity and use quality improvement knowledge and tools.

Crabtree et al. (2011) summarized the results of a 15-year program of research on quality improvement in primary care practices and suggest that a theoretical perspective that uses a complexity systems perspective is best suited to quality improvement (i.e., EIDM). They call for continual reflection, careful tailoring of interventions, and ongoing attention to the quality of interactions among agents to ensure success of implementation. Reflection can be facilitated in three arenas – organizational, process and relational (Shaw, Howard, Etz, Hudson, & Crabtree, 2012a). They found that organizational reflection promoted buy-in, motivation, and feelings of inspiration; process reflection enhanced team problem solving and change management; and relational reflection enhanced discussions of relational dynamics necessary to implement desired changes. If change interventions seek to make changes where collaboration and coordination are required, then deliberately integrating team-based reflection into implementation efforts can provide opportunities to facilitate change processes.

Cohen at al. (2008) examined how interventions change during implementation. Modifications differed by project and by practice, and were often unanticipated. They identified that the three broad categories of adaptations that were incorporated to accommodate circumstances related to the primary care practice, patients' situations and personnel issues. They found also

that research teams played an important facilitation role through their use of personal influence and by providing motivation, retraining, and instrumental assistance to practices. These efforts by the research teams, although rarely considered an essential component of the intervention, were an active ingredient in successful implementation and translation, similar to the findings from Ellen et al. (2013).

Jordan et al. (2009) argue that some unanticipated variations in the outcomes of change interventions arise because unexpected conversations emerge during intervention attempts. Drawing on literature from sociolinguistics and complex adaptive systems theory, the authors created an interpretive framework using insights from a fourteen-year program of research with primary care practices. Conversation can facilitate intervention success. Interventions often rely on new ways of learning and making sense of evidence and practice; these are accomplished through conversation. Conversely, conversation can impede success by inhibiting sense-making and learning. The existing relationship contexts of an organization can influence these conversational possibilities to the positive or negative. These insights mirror the advice from Lewin (1947), Rogers (1962, 2003 and others (e.g., Peirson et al., 2012) about the importance of clear, transparent and frequent communication through all stages of implementation of change.

Similar to the work of Cohen et al. (2013) in Manitoba, Miller, Crabtree, Nutting, Stange, and Jaén (2010) conceived both internal and external environments as important situational contexts in change interventions. Miller et al. used complexity theory and relational theories of organizational learning to understand and improve primary care practice. Primary care practices are described as complex adaptive systems that consist of an internal core (key resources, organizational structure, and functional processes), internal adaptive reserves (features that enhance resilience, e.g., relationships), and attentiveness to the external environment. These attributes represent internal capacity wherein, with adequate motivation, continuous change and transformation results in outcomes that fit their internal and external situations. In this way, they suggest, organizational development and capacity is enhanced by implementing feedback systems, focusing on creative tensions, and fostering learning conversations (as do Jordan et al., 2009). Nutting et al. (2010) suggest further that intense facilitation of these processes improves the adaptive reserves.

Peirson et al. (2012) reported the important role of champions in the implementation of change in an Ontario EIDM project. Similarly, Shaw et al. (2012b) discovered that change champions—both project and organizational change champions—are critical players in supporting both innovation-specific and transformative change efforts in primary care practices.

7. Conclusions

There is growing evidence that core processes of learning and adaptation in healthcare organizations need to evolve. This necessity has encouraged a wide range of efforts to apply different models of change and learning in organizations (e.g., complex systems theory, organizational theory, knowledge utilization, and implementation research). Although many of these efforts have occurred independently, the time may be ripe for a convergence of these diverse perspectives (Doebbeling & Flanagan, 2011). Several theoretical models for change have been proposed, but lacking in these are the conceptual clarity, instruments, measures,

indicators, and pathways of causality for success. And what is success? Is it the success of the innovation or of the implementation process? Few of the proposed models have been evaluated, and other than the ORCA, few have good reliability and validity statistics. There are several calls for more concerted action on the part of organizational change scientists to reach consensus on the situational factors and intervention processes that create successful evidence-informed improvements in healthcare contexts.

The LCPHPC Project for which this literature review was prepared is faced with many challenges in the decision of how to proceed and to what goal. In a next phase – focus group discussions with nominated leaders in the public health field from the seven disciplines engaged in the LCPHPC Project – we will ask about the current state of readiness for the adoption of leadership competencies in public health organizations in Canada. We will seek to learn if there are identifiable people that can be counted on to serve as change agents, supporters, and opinion leaders. We will ask about indicators of success for the process of implementing the leadership competencies developed in the LCPHPC Project. The literature reviews, on-line survey, and the focus group reports will be consolidated into an integrated Environmental Scan report.

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Thompson, J. M. (2010). Understanding and managing organizational change: Implications for public health management. *Journal of Public Health Management & Practice, 16*(2), 167-173. doi: 10.1097/PHH.0b013e3181c8cb51

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Weiner, B. J., Amick, H., & Lee, S. Y. (2008). Conceptualization and measurement of organizational readiness for change: A review of the literature in health services research and other fields. *Medical Care Research Review*, *65*, 379-436.

Wild, E. L., & Fehrenbach, S. N. (2004). Assessing organizational readiness and capacity for developing an integrated child health information system. *Journal of Public Health Management and Practice, 10*(Suppl), S48-51.

Zheng, K., McGrath, D., Hamilton, A., Tanner, C., White, M., & Pohl, J. M. (2009). Assessing organizational readiness for adopting an electronic health record systems - A case study in ambulatory practices. *Journal of Decision Systems, 18*, 117-140.

Appendix A. Cited Articles and Abstracts

Article citation	Abstract (as provided by author/journal)
Aarons, G. A., Hurlburt, M., & Horwitz, S. M. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health and Mental Health Services Research, 38*(1), 4-23. doi: 10.1007/s10488-010-0327-7	Implementation science is a quickly growing discipline. Lessons learned from business and medical settings are being applied but it is unclear how well they translate to settings with different historical origins and customs (e.g., public mental health, social service, alcohol/drug sectors). PURPOSE: To propose a multi-level, four phase model of the implementation process (i.e., Exploration, Adoption/Preparation, Implementation, Sustainment), derived from extant literature, and apply it to public sector services. We highlight features of the model likely to be particularly important in each phase, while considering the outer and inner contexts (i.e., levels) of public sector service systems.
Balasubramanian, B. A., Chase, S. M., Nutting, P. A., Cohen, D. J., Strickland, P. A., Crosson, J. C., … ULTRA Study Team. (2010). Using Learning Teams for Reflective Adaptation (ULTRA): Insights from a team-based change management strategy in primary care. *Annals of Family Medicine, 8*(5), 425-432. doi: 10.1370/afm.1159	PURPOSE: The *Using Learning Teams for Reflective Adaptation* (ULTRA) study used facilitated reflective adaptive process (RAP) teams to enhance communication and decision making in hopes of improving adherence to multiple clinical guidelines; however, the study failed to show significant clinical improvements. This study examined qualitative data from 25 intervention practices to understand how they engaged in a team-based collaborative change management strategy and the types of issues they addressed. METHODS: We analyzed field notes and interviews from a multimethod practice assessment, as well as field notes and audio-taped recordings from RAP meetings, using an iterative group process and an immersion-crystallization approach. RESULTS: Despite a history of not meeting regularly, 18 of 25 practices successfully convened improvement teams. There was evidence of improved practice wide communication in 12 of these practices. At follow-up, 8 practices continued RAP meetings and found the process valuable in problem solving and decision making. Seven practices failed to engage in RAP primarily because of key leaders dominating the meeting agenda or staff members hesitating to speak up in meetings. Although the number of improvement targets varied considerably, most RAP teams targeted patient care-related issues or practice-level organizational improvement issues. Not a single practice focused on adherence to clinical care guidelines. CONCLUSION: Primary care practices can successfully engage in facilitated team meetings; however, leaders must be engaged in the process. Additional strategies are needed to engage practice leaders, particularly physicians, and to target issues related to guideline adherence.
Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman.	
Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*, 75-78.	
Brach, C., Lenfestey, N., Roussel, A., Amoozegar, J., & Sorensen, A. (2008). *Will it work here? A decisionmaker's guide to adopting innovations.* Prepared by RTI International. 08-0051. Rockville, MD: Agency for Healthcare Research and Quality.	This online resource provides numerous tools to help decision-makers decide whether or not to adopt an innovation. Developed by the Agency for Healthcare Research and Quality, the workbook, *Will It Work Here? A Decisionmaker's Guide to Adopting Innovations* uses a modular format that allows users to go directly to the sections relevant to them.

Burnes, B. (2004). Kurt Lewin and the planned approach to change: A re-appraisal. *Journal of Management Studies, 41*(6), 977-1002.	The work of Kurt Lewin dominated the theory and practice of change management for over 40 years. However, in the past 20 years, Lewin's approach to change, particularly the *3-Step model*, has attracted major criticisms. The key ones are that his work: assumed organizations operate in a stable state; was only suitable for small-scale change projects; ignored organizational power and politics; and was top-down and management-driven. This article seeks to re-appraise Lewin's work and challenge the validity of these views. It begins by describing Lewin's background and beliefs, especially his commitment to resolving social conflict. The article then moves on to examine the main elements of his planned approach to change: Field Theory; Group Dynamics; Action Research; and the 3-Step model. This is followed by a brief summary of the major developments in the field of organizational change since Lewin's death which, in turn, leads to an examination of the main criticisms levelled at Lewin's work. The article concludes by arguing that rather than being outdated or redundant, Lewin's approach is still relevant to the modern world.
Castañeda, S. F., Holscher, J., Mumman, M. K., Salgado, H., Keir, K. B., Foster-Fishman, P. G., & Talavera, G. A. (2012). Dimensions of community and organizational readiness for change. *Progress in Community Health Partnerships: Research, Education, and Action, 6*(2), 219-226. doi: 10.1353/cpr.2012	BACKGROUND: Readiness can influence whether health interventions are implemented in, and ultimately integrated into, communities. Although there is significant research interest in readiness and capacity for change, the measurement of these constructs is still in its infancy. OBJECTIVE: The purpose of this review was to integrate existing assessment models of community and organizational readiness. DATA SOURCES: The database PubMed was searched for articles; articles, book chapters, and practitioner guides identified as references cited in the list of core articles. REVIEW METHODS: Studies were included if they met the following criteria: (1) Empirical research, (2) identified community or organizational readiness for innovative health programming in the study's title, purpose, research questions, or hypotheses, and (3) identified methods to measure these constructs. Duplicate articles were deleted and measures published before 1995 were excluded. The search yielded 150 studies; 13 met all criteria. RESULTS: This article presents the results of a critical review of 13 community and organizational readiness assessment models, stemming from articles, chapters, and practitioner's guides focusing on assessing, developing, and sustaining community and organizational readiness for innovative public health programs. CONCLUSIONS: Readiness is multidimensional and different models place emphasis on different components of readiness, such as (1) community and organizational climate that facilitates change, (2) attitudes and current efforts toward prevention, (3) commitment to change, and (4) capacity to implement change. When initiating the program planning process, it is essential to assess these four domains of readiness to determine how they apply to the nuances across different communities. Thus, community-based participatory research partnerships, in efforts to focus on public health problems, may consider using readiness assessments as a tool for tailoring intervention efforts to the needs of the community.
Cohen, D. J., Crabtree, B. F., Etz, R. S., Balasubramanian, B. A., Donahue, K. E., Leviton, L. C., … Green, L. W. (2008). Fidelity versus flexibility: Translating evidence-based research into practice. *American Journal of Preventative Medicine, 5*(Suppl), S381-9. doi: 10.1016/j.amepre.2008.08.005	BACKGROUND: Understanding the process by which research is translated into practice is limited. This study sought to examine how interventions change during implementation. METHODS: Data were collected from July 2005 to Sept 2007. A real-time and cross-case comparison was conducted, examining ten interventions designed to improve health promotion in primary care practices in practice-based research networks. An iterative group process was used to analyze qualitative data (survey data, interviews, site visits, and project diary entries made by grantees approximately every 2

	weeks) and to identify intervention adaptations reported during implementation. RESULTS: All interventions required changes as they were integrated into practice. Modifications differed by project and by practice, and were often unanticipated. Three broad categories of changes were identified and include modifications undertaken to accommodate practices' and patients' circumstances as well as personnel costs. In addition, research teams played a crucial role in fostering intervention uptake through their use of personal influence and by providing motivation, retraining, and instrumental assistance to practices. These efforts by the research teams, although rarely considered an essential component of the intervention, were an active ingredient in successful implementation and translation. CONCLUSIONS: Changes are common when interventions are implemented into practice settings. The translation of evidence into practice will be improved when research design and reporting standards are modified to help quality-improvement teams understand both these adaptations and the effort required to implement interventions in practice.
Cohen, B. E., Schultz, A., McGibbon, E., Vanderplaat, M., Bassett, R., Germann, K., … Fuga, L. A. (2013). A conceptual framework of organizational capacity for public health equity action (OC-PHEA). *Canadian Journal of Public Health, 104*(3), e262-266.	The Canadian public health sector's foundational values of social justice and equity, and its mandate to promote population health, make it ideally situated to take a strong lead in addressing persistent and unacceptable inequities in health between socially disadvantaged, marginalized or excluded groups and the general population. There is currently much attention paid to improving understanding of pathways to health equity and development of effective population health interventions to reduce health inequities. Strengthening the capacity of the public health sector to develop, implement and sustain equity-focused population health initiatives - including readiness to engage in a social justice-based equity framework for public health - is an equally essential area that has received less attention. Unfortunately, there is evidence that current capacity of the Canadian public health sector to address inequities is highly variable. The first step in developing a sustained approach to improving capacity for health equity action is the identification of what this type of capacity entails. This paper outlines a Conceptual Framework of Organizational Capacity for Public Health Equity Action (OC-PHEA), grounded in the experience of Canadian public health equity champions, that can guide research, dialogue, reflection and action on public health capacity development to achieve health equity goals.
Crabtree, B. F., Nutting, P. A., Miller, W. L., McDaniel, R. R., Stange, K. C., Jaen, C. R., & Stewart, E. (2011). Primary care practice transformation is hard work: Insights from a 15-year developmental program of research. *Medical Care, 49*(Suppl), S28-35. doi: 10.1097/MLR.0b013e3181cad65c	BACKGROUND: Serious shortcomings remain in clinical care in the United States despite widespread use of improvement strategies for enhancing clinical performance based on knowledge transfer approaches. Recent calls to transform primary care practice to a patient-centered medical home present even greater challenges and require more effective approaches. METHODS: Our research team conducted a series of National Institutes of Health funded descriptive and intervention projects to understand organizational change in primary care practice settings, emphasizing a complexity science perspective. The result was a developmental research effort that enabled the identification of critical lessons relevant to enabling practice change. RESULTS: A summary of findings from a 15-year program of research highlights the limitations of viewing primary care practices in the mechanistic terms that underlie current or traditional approaches to quality improvement. A theoretical perspective that views primary care practices as dynamic complex adaptive systems with "agents" who have the capacity to learn, and the freedom to act in unpredictable ways provides a better framework for grounding quality improvement strategies. This framework strongly emphasizes that quality improvement interventions

	should not only use a complexity systems perspective, but also there is a need for continual reflection, careful tailoring of interventions, and ongoing attention to the quality of interactions among agents in the practice. CONCLUSIONS: It is unlikely that current strategies for quality improvement will be successful in transforming current primary care practice to a patient-centered medical home without a stronger guiding theoretical foundation. Our work suggests that a theoretical framework guided by complexity science can help in the development of quality improvement strategies that will more effectively facilitate practice change.
Discovery Learning Inc. (2010 September). *Research summary 14 – Change readiness gauge.* Retrieved from https://www.discoverylearning.com/p-3-change-readiness-gauge.aspx	The *Change Readiness Gauge®* is a change management tool designed to assess an organization's readiness to accept and implement change. A change agility assessment, the Change Readiness Gauge offers a unique approach to change and is a valuable tool in the assessment of organizational culture. The change readiness assessment helps organizations and teams understand and more effectively deal with their challenges as they approach change. OUTCOMES: Assesses and quantifies an organization's change readiness; Aligns leadership on the most important organizational change issues; Develops a shared understanding of change readiness; Creates benchmarks and measures at the start of a change initiative. PRODUCT FEATURES: Applicable to teams and all levels of an organization; Flexible with the ability to create multiple reports and data views; Takes about 10 minutes to complete; Available online; Available in English. Certification required to purchase.
Doebbeling, B. N., & Flanagan, M. E. (2011). Emerging perspectives on transforming the healthcare system: Developing a research agenda. *Medical Care, 49*(12), S1-2.	
Ellen, M. E., Léon, G., Bouchard, G., Lavis, J. N., Ouimet, M., & Grimshaw, J. M. (2013). What supports do health system organizations have in place to facilitate evidence-informed decision-making? A qualitative study. *Implementation Science, 8*(84). doi: 10.1186/1748-5908-8-84	BACKGROUND: Decisions regarding health systems are sometimes made without the input of timely and reliable evidence, leading to less than optimal health outcomes. Healthcare organizations can implement tools and infrastructures to support the use of research evidence to inform decision-making. OBJECTIVES: The purpose of this study was to profile the supports and instruments (i.e., programs, interventions, instruments or tools) that healthcare organizations currently have in place and which ones were perceived to facilitate evidence-informed decision-making. METHODS: In-depth semi-structured telephone interviews were conducted with individuals in three different types of positions (i.e., a senior management team member, a library manager, and a 'knowledge broker') in three types of healthcare organizations (i.e., regional health authorities, hospitals and primary care practices) in two Canadian provinces (i.e., Ontario and Quebec). The interviews were taped, transcribed, and then analyzed thematically using NVivo 9 qualitative data analysis software. RESULTS: A total of 57 interviews were conducted in 25 organizations in Ontario and Quebec. The main findings suggest that, for the healthcare organizations that participated in this study, the following supports facilitate evidence-informed decision-making: facilitating roles that actively promote research use within the organization; establishing ties to researchers and opinion leaders outside the organization; a technical infrastructure that provides access to research evidence, such as databases; and provision and participation in training programs to enhance staff's capacity building. CONCLUSIONS: This study identified the need for having a receptive climate, which laid the foundation for the implementation of other tangible initiatives and supported the use of research in decision-making. This study adds to the literature on organizational efforts that can increase the use of research evidence in decision-making. Some of the identified

	supports may increase the use of research evidence by decision-makers, which may then lead to more informed decisions, and hopefully to a strengthened health system and improved health.
Helfrich, C. D., Li, Y-F., Sharp, N. D., & Sales, A. E. (2009). Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework. *Implementation Science, 4*(38). doi: 10.1186/1748-5908-4-38	BACKGROUND: The *Promoting Action on Research Implementation in Health Services*, or PARIHS, framework is a theoretical framework widely promoted as a guide to implement evidence-based clinical practices. However, it has as yet no pool of validated measurement instruments that operationalize the constructs defined in the framework. The present article introduces an *Organizational Readiness to Change Assessment* instrument (ORCA), organized according to the core elements and sub-elements of the PARIHS framework, and reports on initial validation. METHODS: We conducted scale reliability and factor analyses on cross-sectional, secondary data from three quality improvement projects (n = 80) conducted in the Veterans Health Administration. In each project, identical 77-item ORCA instruments were administered to one or more staff from each facility involved in quality improvement projects. Items were organized into 19 subscales and three primary scales corresponding to the core elements of the PARIHS framework: (1) Strength and extent of evidence for the clinical practice changes represented by the QI program, assessed with four subscales, (2) Quality of the organizational context for the QI program, assessed with six subscales, and (3) Capacity for internal facilitation of the QI program, assessed with nine subscales. RESULTS: Cronbach's alpha for scale reliability were 0.74, 0.85 and 0.95 for the evidence, context and facilitation scales, respectively. The evidence scale and its three constituent subscales failed to meet the conventional threshold of 0.80 for reliability, and three individual items were eliminated from evidence subscales following reliability testing. In exploratory factor analysis, three factors were retained. Seven of the nine facilitation subscales loaded onto the first factor; five of the six context subscales loaded onto the second factor; and the three evidence subscales loaded on the third factor. Two subscales failed to load significantly on any factor. One measured resources in general (from the context scale), and one clinical champion role (from the facilitation scale). CONCLUSION: We find general support for the reliability and factor structure of the ORCA. However, there was poor reliability among measures of evidence, and factor analysis results for measures of general resources and clinical champion role did not conform to the PARIHS framework. Additional validation is needed, including criterion validation.
Helfrich, C. D., Damschroder, L. J., Hagedorn, H. J., Daggett, G. S., Sahay, A., Ritchie, M., … Stetler, C. B. (2010). A critical synthesis of literature on the promoting action on research implementation in health services (PARIHS) framework. *Implementation Science, 5*(82). doi: 10.1186/1748-5908-5-82	BACKGROUND: The *Promoting Action on Research Implementation in Health Services framework*, or PARIHS, is a conceptual framework that posits key, interacting elements that influence successful implementation of evidence-based practices. It has been widely cited and used as the basis for empirical work; however, there has not yet been a literature review to examine how the framework has been used in implementation projects and research. The purpose of the present article was to critically review and synthesize the literature on PARIHS to understand how it has been used and operationalized, and to highlight its strengths and limitations. METHODS: We conducted a qualitative, critical synthesis of peer-reviewed PARIHS literature published through March 2009. We synthesized findings through a three-step process using semi-structured data abstraction tools and group consensus. RESULTS: Twenty-four articles met our inclusion criteria: six core concept articles from original PARIHS authors, and eighteen empirical articles ranging from case reports to quantitative studies. Empirical articles generally used PARIHS as an organizing framework for analyses. No studies used

	PARIHS prospectively to design implementation strategies, and there was generally a lack of detail about how variables were measured or mapped, or how conclusions were derived. Several studies used findings to comment on the framework in ways that could help refine or validate it. The primary issue identified with the framework was a need for greater conceptual clarity regarding the definition of sub-elements and the nature of dynamic relationships. Strengths identified included its flexibility, intuitive appeal, explicit acknowledgement of the outcome of 'successful implementation,' and a more expansive view of what can and should constitute 'evidence.' CONCLUSIONS: While we found studies reporting empirical support for PARIHS, the single greatest need for this and other implementation models is rigorous, prospective use of the framework to guide implementation projects. There is also need to better explain derived findings and how interventions or measures are mapped to specific PARIHS elements; greater conceptual discrimination among sub-elements may be necessary first. In general, it may be time for the implementation science community to develop consensus guidelines for reporting the use and usefulness of theoretical frameworks within implementation studies.
Holt, D.T., Armenakis, A.A., Harris, S.G., & Feild, H.S. (2006).Toward a comprehensive definition of readiness for change: A review of research and instrumentation. In *Research in Organizational Change and Development* (pp. 289-336). Greenwich, CT: JAI Press.	
Jacobs, J., Clayton, P. F., Dove, C., Funchess, T., Jones, E., Perveen, G., … Brownson, R. C. (2012). A survey tool for measuring evidence-based decision making capacity in public health agencies. *BMC Health Services Research, 12*(57). doi: 10.1186/1472-6963-12-57	BACKGROUND: While increasing attention is placed on using evidence-based decision making (EBDM) to improve public health, there is little research assessing the current EBDM capacity of the public health workforce. Public health agencies serve a wide range of populations with varying levels of resources. Our survey tool allows an individual agency to collect data that reflects its unique workforce. METHODS: Health department leaders and academic researchers collaboratively developed and conducted crosssectional surveys in Kansas and Mississippi (USA) to assess EBDM capacity. Surveys were delivered to state- and local-level practitioners and community partners working in chronic disease control and prevention. The core component of the surveys was adopted from a previously tested instrument and measured gaps (importance versus availability) in competencies for EBDM in chronic disease. Other survey questions addressed expectations and incentives for using EBDM, self-efficacy in three EBDM skills, and estimates of EBDM within the agency. RESULTS: In both states, participants identified communication with policymakers, use of economic evaluation, and translation of research to practice as top competency gaps. Self-efficacy in developing evidence-based chronic disease control programs was lower than in finding or using data. Public health practitioners estimated that approximately two-thirds of programs in their agency were evidence-based. Mississippi participants indicated that health department leaders' expectations for the use of EBDM was approximately twice that of co-workers' expectations and that the use of EBDM could be increased with training and leadership prioritization. CONCLUSIONS: The assessment of EBDM capacity in Kansas and Mississippi built upon previous nationwide findings to identify top gaps in core competencies for EBDM in chronic disease and to estimate a percentage of programs in U.S. health departments that are evidence-based. The survey can serve as a valuable tool for other health departments and non-governmental organizations to assess EBDM capacity within their own workforce and to assist in the identification of approaches that will enhance the uptake of EBDM processes in public health programming and policymaking. Localized survey findings can provide direction for focusing workforce training programs

	and can indicate the types of incentives and policies that could affect the culture of EBDM in the workplace.
Jordan, M. E., Lanham, H. J., Crabtree, B. F., Nutting, P. A., Miller, W. L., Stange, K. C., & McDaniel, R. R. Jr. (2009). The role of conversation in health care interventions: Enabling sensemaking and learning. *Implementation Science, 4*(15). doi: 10.1186/1748-5908-4-15	BACKGROUND: Those attempting to implement changes in health care settings often find that intervention efforts do not progress as expected. Unexpected outcomes are often attributed to variation and/or error in implementation processes. We argue that some unanticipated variation in intervention outcomes arises because unexpected conversations emerge during intervention attempts. The purpose of this paper is to discuss the role of conversation in shaping interventions and to explain why conversation is important in intervention efforts in health care organizations. We draw on literature from sociolinguistics and complex adaptive systems theory to create an interpretive framework and develop our theory. We use insights from a fourteen-year program of research, including both descriptive and intervention studies undertaken to understand and assist primary care practices in making sustainable changes. We enfold these literatures and these insights to articulate a common failure of overlooking the role of conversation in intervention success, and to develop a theoretical argument for the importance of paying attention to the role of conversation in health care interventions. DISCUSSION: Conversation between organizational members plays an important role in the success of interventions aimed at improving health care delivery. Conversation can facilitate intervention success because interventions often rely on new sense making and learning, and these are accomplished through conversation. Conversely, conversation can block the success of an intervention by inhibiting sense making and learning. Furthermore, the existing relationship contexts of an organization can influence these conversational possibilities. We argue that the likelihood of intervention success will increase if the role of conversation is considered in the intervention process.
Lewin, K. (1947).Frontiers of group dynamics: Concept, method and reality in social science, social equilibria, and social change. *Human Relations, 1*, 5-41.	
Miller, W. L., Crabtree, B. F., Nutting, P. A., Stange, K. C., & Jaén, C. R. (2010). Primary care practice development: A relationship-centered approach. *Annals of Family Medicine, Suppl 1*, S68-79; S92. doi: 10.1370/afm.1089. Erratum in: (2010). *Annals of Family Medicine, 8*(4), 369.	PURPOSE: Numerous primary care practice development efforts, many related to the patient-centered medical home (PCMH), are emerging across the United States with few guides available to inform them. This article presents a relationship-centered practice development approach to understand practice and to aid in fostering practice development to advance key attributes of primary care that include access to first-contact care, comprehensive care, coordination of care, and a personal relationship over time. METHODS: Informed by complexity theory and relational theories of organizational learning, we built on discoveries from the American Academy of Family Physicians' National Demonstration Project (NDP) and 15 years of research to understand and improve primary care practice. RESULTS: Primary care practices can fruitfully be understood as complex adaptive systems consisting of a core (a practice's key resources, organizational structure, and functional processes), adaptive reserve (practice features that enhance resilience, such as relationships), and attentiveness to the local environment. The effectiveness of these attributes represents the practice's internal capability. With adequate motivation, healthy, thriving practices advance along a pathway of slow, continuous developmental change with occasional rapid periods of transformation as they evolve better fits with their environment. Practice development is enhanced through systematically using strategies that involve setting direction and boundaries, implementing sensing systems, focusing on creative tensions, and fostering learning conversations. CONCLUSIONS: Successful practice development begins with changes that strengthen

	practices' core, build adaptive reserve, and expand attentiveness to the local environment. Development progresses toward transformation through enhancing primary care attributes.
National Collaborating Centre for Methods and Tools (NCCMT). (2011). *Tools to guide decision making: Adopting innovations*. Hamilton, ON: McMaster University. Retrieved from http://www.nccmt.ca/registry/view/eng/78.html	
Nelson, J. C., Raskind-Hood, C., Galvin, V. G., Essien, J. D., & Levine, L. M. (1998). Positioning for partnerships. Assessing public health agency readiness. *American Journal of Preventive Medicine, 16*(3, Suppl 1), 103-117.	BACKGROUND: Public health organizations are redefining their roles and aligning their structures with other components of the evolving American health system. Health departments must proactively and strategically plan how to position themselves for the coming years. Prior to implementing changes in functioning, structure, and/or future strategies, an organization should assess its internal readiness to commit to creating these substantial alterations. METHODS: Using a diagnostic tool developed by study investigators, employees of the Cobb and Douglas Counties Boards of Health were surveyed in order to assess their organizational readiness to enter into a strategic partnership with Promina Northwest, a not-for-profit hospital network in the Atlanta, Georgia area. Frequency distributions were conducted for each categorical variable and data were analyzed in aggregate and by job category. RESULTS: The 122 analyzed questionnaires revealed some significant trends. Respondents ranked the six factors having the greatest impact on an organization's ability to change in the following order: leadership, planning, teamwork, mission, information and operations. Interestingly, this rank ordering parallels the perceived strengths and weaknesses of the health departments as determined by the frequency of the most positive responses. CONCLUSION: Cobb and Douglas Counties Boards of Health have taken many key steps to prepare the organizations for significant proactive changes. Survey results emphasized the need for open channels of communication within the organizations and with the external environment so that effective planning can guide the strategic alignment of the health departments with community partners.
Nutting, P. A., Crabtree, B. F., Stewart, E. E., Miller, W. L., Palmer, R. F., Stange, K. C., & Jaén, C. R. (2010). Effect of facilitation on practice outcomes in the National Demonstration Project model of the patient-centered medical home. *Annals of Family Medicine, 8*(Suppl 1), S33-44; S92. doi: 10.1370/afm.1119. Erratum in: (2010) *Annals of Family Medicine, 8*(4), 369.	PURPOSE: To elucidate the effect of facilitation on practice outcomes in the 2-year patient-centered medical home (PCMH) National Demonstration Project (NDP) intervention, and to describe practices' experience in implementing different components of the NDP model of the PCMH. METHODS: Thirty-six family practices were randomized to a facilitated intervention group or a self-directed intervention group. We measured 3 practice-level outcomes: (1) the proportion of 39 components of the NDP model that practices implemented, (2) the aggregate patient rating of the practices' PCMH attributes, and (3) the practices' ability to make and sustain change, which we term adaptive reserve. We used a repeated-measures analysis of variance to test the intervention effects. RESULTS: By the end of the 2 years of the NDP, practices in both facilitated and self-directed groups had at least 70% of the NDP model components in place. Implementation was relatively harder if the model component affected multiple roles and processes, required coordination across work units, necessitated additional resources and expertise, or challenged the traditional model of primary care. Electronic visits, group visits, team-based care, wellness promotion, and proactive population management presented the greatest challenges. Controlling for baseline differences and practice size, facilitated practices had greater increases in adaptive reserve (group difference by time, P= .005) and the proportion of NDP model components implemented (group difference by time, P= .02); the latter increased from 42% to 72% in the facilitated group and from 54% to 70% in the self-directed group. Patient ratings of the practices' PCMH attributes did not differ between groups and, in fact, diminished in both of them.

	CONCLUSIONS: Highly motivated practices can implement many components of the PCMH in 2 years, but apparently at a cost of diminishing the patient's experience of care. Intense facilitation increases the number of components implemented and improves practices' adaptive reserve. Longer follow-up is needed to assess the sustained and evolving effects of moving independent practices toward PCMHs.
Parmelli, E., Flodgren, G., Beyer, F., Baillie, N., Schaafsma, M. E., & Eccles, M. P. (2011). The effectiveness of strategies to change organisational culture to improve healthcare performance: A systematic review. *Implementation Science*, *6*(33). doi: 10.1186/1748-5908-6-33	BACKGROUND: Organisational culture is an anthropological metaphor used to inform research and consultancy and to explain organisational environments. In recent years, increasing emphasis has been placed on the need to change organisational culture in order to improve healthcare performance. However, the precise function of organisational culture in healthcare policy often remains underspecified and the desirability and feasibility of strategies to be adopted have been called into question. The objective of this review was to determine the effectiveness of strategies to change organisational culture in order to improve healthcare performance.; METHODS: We searched the following electronic databases: The Cochrane Central Register of Controlled Trials, MEDLINE, EMBASE, CINAHL, Sociological Abstracts, Web of Knowledge, PsycINFO, Business and Management, EThOS, Index to Theses, Intute, HMIC, SIGLE, and Scopus until October 2009. The Database of Abstracts of Reviews of Effectiveness (DARE) was searched for related reviews. We also searched the reference lists of all papers and relevant reviews identified, and we contacted experts in the field for advice on further potential studies. We considered randomised controlled trials (RCTs) or well designed quasi-experimental studies (controlled clinical trials (CCTs), controlled before and after studies (CBAs), and interrupted time series (ITS) analyses). Studies could be set in any type of healthcare organisation in which strategies to change organisational culture in order to improve healthcare performance were applied. Our main outcomes were objective measures of professional performance and patient outcome. RESULTS: The search strategy yielded 4,239 records. After the full text assessment, two CBA studies were included in the review. They both assessed the impact of interventions aimed at changing organisational culture, but one evaluated the impact on work-related and personal outcomes while the other measured clinical outcomes. Both were at high risk of bias. Both reported positive results. CONCLUSIONS: Current available evidence does not identify any effective, generalisable strategies to change organisational culture. Healthcare organisations considering implementing interventions aimed at changing culture should seriously consider conducting an evaluation (using a robust design, e.g., ITS) to strengthen the evidence about this topic.
Peirson, L., Ciliska, D., Dobbins, M., & Mowat, D. (2012). Building capacity for evidence informed decision making in public health: A case study of organizational change. *BMC Public Health, 12*(137). doi: 10.1186/1471-2458-12-137	BACKGROUND: Core competencies for public health in Canada require proficiency in evidence informed decision making (EIDM). However, decision makers often lack access to information, many workers lack knowledge and skills to conduct systematic literature reviews, and public health settings typically lack infrastructure to support EIDM activities. This research was conducted to explore and describe critical factors and dynamics in the early implementation of one public health unit's strategic initiative to develop capacity to make EIDM standard practice. METHODS: This qualitative case study was conducted in one public health unit in Ontario, Canada between 2008 and 2010. In-depth information was gathered from two sets of semi-structured interviews and focus groups (n = 27) with 70 members of the health unit, and through a review of 137 documents. Thematic analysis was used to code the key informant and document data. RESULTS: The critical factors and dynamics for building

	EIDM capacity at an organizational level included: clear vision and strong leadership, workforce and skills development, ability to access research (library services), fiscal investments, acquisition and development of technological resources, a knowledge management strategy, effective communication, a receptive organizational culture, and a focus on change management. CONCLUSION: With leadership, planning, commitment and substantial investments, a public health department has made significant progress, within the first two years of a 10-year initiative, towards achieving its goal of becoming an evidence informed decision making organization.
Prochaska, J. O. & DiClemente, C. C. (1984). The Transtheoretical Approach: Towards a systematic eclectic framework. Homewood, IL: Dow Jones Irwin.	
Rogers, E. M. (1962). *Diffusion of innovations.* Glencoe: Free Press.	
Rogers, E. M. (2003). *Diffusion of innovations* (5th edition). New York, NY: Free Press.	
Rycroft-Malone, J. (2004). The PARIHS Framework—A framework for guiding the implementation of evidence-based practice. *Journal of Nursing Care Quality, 19*(4), 297-304.	Using the Best Evidence to Change Practice. We are living in an exciting era in which we have a much more extensive body of nursing research than in the past decades upon which to base nursing practice. Although there remain many aspects of patient care for which little research is available, our literature contains a wealth of knowledge applicable to practice. The purpose of this column in the Journal of Nursing Care Quality is to present practical information for direct-care nurses and quality improvement leaders about using the best available evidence to change practice.
Shaw, E. K., Howard, J., Etz, R. S., Hudson, S. V., & Crabtree, B. F. (2012a). How team-based reflection affects quality improvement implementation: A qualitative study. *Quality Management in Health Care, 21*(2), 104-13. doi: 10.1097/QMH.0b013e31824d4984	Quality improvement (QI) interventions in health care organizations have produced mixed results with significant questions remaining about how QI interventions are implemented. Team-based reflection may be an important element for understanding QI implementation. Extensive research has focused on individual benefits of reflection including links between reflection, learning, and change. There are currently no published studies that explore how team-based reflection impact QI interventions. We selected 4 primary care practices participating in a QI trial that used a facilitated, team-based approach to improve colorectal cancer screening rates. Trained facilitators met with a team of practice members for up to eleven 1-hour meetings. Data include audio-recorded team meetings and associated field notes. We used a template approach to code transcribed data and an immersion/crystallization technique to identify patterns and themes. Three types of team-based reflection and how each mattered for QI implementation were identified: organizational reflection promoted buy-in, motivation, and feelings of inspiration; process reflection enhanced team problem solving and change management; and relational reflection enhanced discussions of relational dynamics necessary to implement desired QI changes. If QI interventions seek to make changes where collaboration and coordination of care is required, then deliberately integrating team-based reflection into interventions can provide opportunities to facilitate change processes.
Shaw, E. K., Howard, J., West, D. R., Crabtree, B. F., Nease, D. E. Jr., Tutt, B., & Nutting, P. A. (2012b). The role of the champion in primary care change efforts: from the State Networks of Colorado Ambulatory Practices and Partners (SNOCAP). *Journal of the American Board of Family Medicine,*	BACKGROUND: Change champions are important for moving new innovations through the phases of initiation, development, and implementation. Although research attributes positive health care changes to the help of champions, little work provides details about the champion role. METHODS: Using a combination of immersion/crystallization and matrix techniques, we analyzed qualitative data, which included field notes of team meetings, interviews, and transcripts of facilitator meetings, from a sample of 8 practices. RESULTS: Our analysis yielded insights into the value of having 2 discrete types of change

25(5), 676-85. doi: 10.3122/jabfm.2012.05.110281	champions: (1) those associated with a specific project (project champions) and (2) those leading change for entire organizations (organizational change champions). Relative to other practices under study, those that had both types of champions who complemented each other were best able to implement and sustain diabetes care processes. We provide insights into the emergence and development of these champion types, as well as key qualities necessary for effective championing. CONCLUSIONS: Practice transformation requires a sustained improvement effort that is guided by a larger vision and commitment and assures that individual changes fit together into a meaningful whole. Change champions—both project and organizational change champions—are critical players in supporting both innovation-specific and transformative change efforts.
Simpson, D., Flynn, P., Joe, G., & Lehman, W. (2011*). Evidence: Organizational readiness for change.* Institute of Behavioural Research, Texas Christian University. Retrieved from: http://www.ibr.tcu.edu/evidence/evi-orc.html	Findings from clinical and natural evaluations for the effectiveness of treatment interventions—especially cognitive and behavioral strategies—have led to renewed calls for transferring these "evidence-based" techniques into practice. This is a complicated task, however, which is itself in need of systematic study. Organizational climate and readiness for change are especially important, and the *TCU Program Change Model* provides a conceptual framework to summarize these and other sources of influence on this stage-based process. New analytic strategies and assessment instruments for studying organizational functioning have been developed at the IBR for this work.
Stamatakis, K. A., McQueen, A., Filler, C., Boland, E., Dreisinger, M., Brownson, R. C., & Luke, D. A. (2012). Measurement properties of a novel survey to assess stages of organizational readiness for evidence-based interventions in community chronic disease prevention settings. *Implementation Science, 7*(65). doi: 10.1186/1748-5908-7-65	BACKGROUND: There is a great deal of variation in the existing capacity of primary prevention programs and policies addressing chronic disease to deliver evidence-based interventions (EBIs). In order to develop and evaluate implementation strategies that are tailored to the appropriate level of capacity, there is a need for an easy-to-administer tool to stage organizational readiness for EBIs. METHODS: Based on theoretical frameworks, including Rogers' Diffusion of Innovations, we developed a survey instrument to measure four domains representing stages of readiness for EBI: awareness, adoption, implementation, and maintenance. A separate scale representing organizational climate as a potential mediator of readiness for EBIs was also included in the survey. Twenty-three questions comprised the four domains, with four to nine items each, using a seven-point response scale. Representatives from obesity, asthma, diabetes, and tobacco prevention programs serving diverse populations in the United States were surveyed (N = 243); test-retest reliability was assessed with 92 respondents. RESULTS: Confirmatory factor analysis (CFA) was used to test and refine readiness scales. Test-retest reliability of the readiness scales, as measured by intra class correlation, ranged from 0.47–0.71. CFA found good fit for the five-item adoption and implementation scales and resulted in revisions of the awareness and maintenance scales. The awareness scale was split into two two-item scales, representing community and agency awareness. The maintenance scale was split into five- and four-item scales, representing infrastructural maintenance and evaluation maintenance, respectively. Internal reliability of scales (Cronbach'sα) ranged from 0.66–0.78. The model for the final revised scales approached good fit, with most factor loadings >0.6 and all>0.4. CONCLUSIONS: The lack of adequate measurement tools hinders progress in dissemination and implementation research. These preliminary results help fill this gap by describing the reliability and measurement properties of a theory-based tool; the short, user-friendly instrument may be useful to researchers and practitioners seeking to assess organizational readiness for EBIs across a variety of chronic disease prevention programs and settings.

Thomas, E. F., Mavor, K. I., & McGarty, C. (2012). Social identities facilitate and encapsulate action relevant constructs: A test of the social identity model of collective action. *Group Processes and Intergroup Relations, 15*(75). doi: 10.1177/1368430211413619	Three studies explore the recently elaborated social identity model of collective action(SIMCA) and an alternative, the encapsulated model of social identity in collective action(EMSICA). These models both afford a central role to the function of social identities in promoting collective action, through affective reactions to injustice and group efficacy, but in different ways. Combined analyses of three samples (N= 305) using multigroup structural equation modelling showed that both SIMCA and EMSICA fit the data well but that the path from group efficacy to action was of small size. Results showed that social identity processes can both facilitate and encapsulate other action-relevant constructs, and highlight the importance of considering multiple causal pathways to action.
Thompson, J. M. (2010). Understanding and managing organizational change: Implications for public health management. *Journal of Public Health Management & Practice, 16*(2), 167-173. doi: 10.1097/PHH.0b013e3181c8cb51	Managing organizational change has become a significant responsibility of managers. Managing the change process within public health organizations is important because appropriately and systematically managing change is linked to improved organizational performance. However, change is difficult and the change process poses formidable challenges for managers. Managers themselves face increased pressure to respond to environmental influences and provide the necessary leadership to their organizations in the change process. In fact, managing organizational change has become a key competency for healthcare managers. This article addresses the important topic of organizational change in public health organizations. It provides a conceptual foundation for understanding organizational change and its relationship to healthcare organizational performance, and then discusses the types and nature of change, using some examples and evidence from those organizations that have successfully managed change. A framework for guiding public health managers in the change management process is provided. The article concludes with suggested management competencies to establish a change-oriented organization with the culture and capacity for change.
Valente, T. W., & Pumpuang, P. (2007). Identifying opinion leaders to promote behavior change. *Health Education & Behavior, 34*(6), 881-896. doi: 10.1177/1090198106297855	This article reviews 10 techniques used to identify opinion leaders to promote behavior change. Opinion leaders can act as gatekeepers for interventions, help change social norms, and accelerate behavior change. Few studies document the manner in which opinion leaders are identified, recruited, and trained to promote health. The authors categorize close to 200 studies that have studied or used opinion leaders to promote behavior change into 10 different methods. They present the advantages and disadvantages of the 10 opinion leader identification methods and provide sample instruments for each. Factors that might influence programs to select one or another method are then discussed, and the article closes with a discussion of combining and comparing methods.
Van Patter Gale, B., & Schaffer, M. A., (2009). Organizational readiness for evidence-based practice. *Journal of Nursing Administration, 39*(2), 91-97.	OBJECTIVE: Explore factors that affect the adoption or rejection of evidence-based practice (EBP) changes and differences in nurse manager and staff nurse perceptions about those factors. BACKGROUND: Roger's *Diffusion of Innovations Theory* explains relevant organizational strategies for guiding practice change. METHODS: The primary author developed the *Evidence-Based Practice Changes Survey* consisting of 12 items, completed by 92 nurses at a level 1 trauma center. RESULTS: Top barriers to EBP were insufficient time, lack of staff, and not having the right equipment/supplies. Top reasons to adopt EBP were having personal interest in the practice change, avoiding risk of negative consequences to patients, and personally valuing the evidence. Several statistically significant differences emerged for demographic variables. CONCLUSION: Planning for EBP change must address barriers and facilitators to practice change and emphasize the benefit for patients and value of the practice change to nurses.

van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin, 134*(4), 504–535. doi: 10.1037/0033-2909.134.4.504	An integrative *social identity model of collective action* (SIMCA) is developed that incorporates 3 socio-psychological perspectives on collective action. Three meta-analyses synthesized a total of 182 effects of perceived injustice, efficacy, and identity on collective action (corresponding to these sociopsychological perspectives). Results showed that, in isolation, all 3 predictors had medium-sized (and causal) effects. Moreover, results showed the importance of social identity in predicting collective action by supporting SIMCA's key predictions that (a) affective injustice and politicized identity produced stronger effects than those of non-affective injustice and non-politicized identity; (b) identity predicted collective action against both incidental and structural disadvantages, whereas injustice and efficacy predicted collective action against incidental disadvantages better than against structural disadvantages; (c) all 3 predictors had unique medium-sized effects on collective action when controlling for between predictor covariance; and (d) identity bridged the injustice and efficacy explanations of collective action. Results also showed more support for SIMCA than for alternative models reflecting previous attempts at theoretical integration. The authors discuss key implications for theory, practice, future research, and further integration of social and psychological perspectives on collective action.
Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation Science, 4*(67). doi: 10.1186/1748-5908-4-67	BACKGROUND: Change management experts have emphasized the importance of establishing organizational readiness (OR) for change and recommended various strategies for creating it. Although the advice seems reasonable, the scientific basis for it is limited. Unlike individual readiness for change, OR for change has not been subject to extensive theoretical development or empirical study. In this article, I conceptually define OR for change and develop a theory of its determinants and outcomes. I focus on the organizational level of analysis because many promising approaches to improving healthcare delivery entail collective behavior change in the form of systems redesign--that is, multiple, simultaneous changes in staffing, work flow, decision making, communication, and reward systems. DISCUSSION: OR for change is a multi-level, multi-faceted construct. As an organization-level construct, readiness for change refers to organizational members' shared resolve to implement a change (change commitment) and shared belief in their collective capability to do so (change efficacy). OR for change varies as a function of how much organizational members value the change and how favorably they appraise three key determinants of implementation capability: task demands, resource availability, and situational factors. When OR for change is high, organizational members are more likely to initiate change, exert greater effort, exhibit greater persistence, and display more cooperative behavior. The result is more effective implementation. SUMMARY: The theory described in this article treats OR as a shared psychological state in which organizational members feel committed to implementing an organizational change and confident in their collective abilities to do so. This way of thinking about OR is best suited for examining organizational changes where collective behavior change is necessary in order to effectively implement the change and, in some instances, for the change to produce anticipated benefits. Testing the theory would require further measurement development and careful sampling decisions. The theory offers a means of reconciling the structural and psychological views of OR found in the literature. Further, the theory suggests the possibility that the strategies that change management experts recommend are equifinal. That is, there is no 'one best way' to increase organizational readiness for change.

Weiner, B. J., Amick, H., & Lee, S. Y. (2008). Conceptualization and measurement of organizational readiness for change: A review of the literature in health services research and other fields. *Medical Care Research Review*, *65*, 379-436.	Health care practitioners and change experts contend that organizational readiness for change is a critical precursor to successful change implementation. This article assesses how organizational readiness for change has been defined and measured in health services research and other fields. Analysis of 106 peer-reviewed articles reveals conceptual ambiguities and disagreements in current thinking and writing about organizational readiness for change. Inspection of 43 instruments for measuring organizational readiness for change reveals limited evidence of reliability or validity for most publicly available measures. Several conceptual and methodological issues that need to be addressed to generate knowledge useful for practice are identified and discussed.
Wild, E. L., & Fehrenbach, S. N. (2004). Assessing organizational readiness and capacity for developing an integrated child health information system. *Journal of Public Health Management and Practice, 10*(Suppl), S48-51.	The Tool for Assessment and Planning (the Tool) assists public health teams in designing child health information integration projects from planning through early implementation. The tool is a companion to Integration of Newborn Screening and Genetic Services Systems with Other Maternal and Child Health Systems: A Sourcebook for Planning and Development (the Sourcebook). The Tool and the Sourcebook focus on 9 key elements considered critical to supporting information systems integration. The 9 key elements are: leadership, project governance, project management, stakeholder involvement, organizational and technical strategies, technical support and coordination, financial support and management, policy support, and evaluation. Project teams can use the Tool to assess their organizational readiness and capacity by examining the critical components and strategies required to support success based on the 9 key elements. The questions are intended to promote discussion among project team members and to identify specific action steps. The Tool includes a planning matrix to track those action steps and to identify accountable personnel. Strategically examining the critical elements and documenting next steps increases the likelihood of a successful integration project.
Zheng, K., McGrath, D., Hamilton, A., Tanner, C., White, M., & Pohl, J. M. (2009). Assessing organizational readiness for adopting an electronic health record systems - A case study in ambulatory practices. *Journal of Decision Systems, 18*, 117-140.	The adoption of health IT system in the U.S. Has significantly lagged behind other developed countries. While the structure of the healthcare system (payer models, and other cultural norms) is a major focus accounting for this deficiency, the mindless implementation of health IT systems is another significant barrier. This paper presents our field experience implementing an Electronic Health Record System in several safety net ambulatory clinical practices across the US. In particular, we discuss the organizational readiness assessment and pre-implementation planning, the key technology considerations for this stratification of practices, and a research-based formative evaluation designed to ensure an implementation's long-term success. We exemplify our strategies using a case study of successfully implementing an EHRS in an ambulatory care clinic at a university health care centre.

A tool to assess evidence-based decision making capacity among public health professionals and organizations

A summary of Jacobs, J.A., Clayton, P.F., Dove, C., Funchess, T., Jones, E., Perveen, G., Skidmore, B. et al. (2012). A survey tool for measuring evidence-based decision making capacity in public health agencies. *BMC Health Services Research*, *12*(57). doi: 10.1186/1472-6963-12-57.

National Collaborating Centre for Methods and Tools

Centre de collaboration nationale des méthodes et outils

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Keywords

Implement, Organizational capacity & assessment, Organizational change

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Relevance For Public Health

This instrument can be used to assess and monitor capacity for evidence-informed decision making among practitioners and organizations. This instrument may indicate different levels of capacity for different program areas within a public health organization, and can inform professional development initiatives to build capacity among staff.

Description

This survey tool measures individual practitioner and organizational capacity for evidence-based decision making (EBDM) in public health. Developed to support implementation of evidence-based interventions in chronic disease, the instrument measures practitioner self-efficacy and competencies and organizational capacity for evidence-informed public health.

This tool was used to assess EBDM capacity in Kansas and Mississippi (USA) among state- and local-level practitioners and community partners working in chronic disease prevention and management. Adapted

These summaries are written by the NCCMT to condense and to provide an overview of the resources listed in the Registry of Methods and Tools and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

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from another survey instrument to identify individual and organizational barriers to EBDM in public health at the national level in the United States (Jacobs et al., 2010), the current tool consists of 33 items (Kansas instrument) and 38 items (Mississippi instrument).

The instrument was developed from evidence-based public health (EBPH) (Brownson, Fielding & Maylahn, 2009), and assesses organizational and practitioner capacity for EBDM to use and apply:

- Best available scientific evidence (both quantitative and qualitative);
- Public health surveillance data;
- Program-planning frameworks (theoretically based);
- Sound evaluation;
- Community engagement and partnerships; and
- Economic evaluation data.

EBDM gap identification allows practitioners and organizations to then access tools and resources through the Centers for Disease Control and Prevention and numerous other agencies (Jacobs et al., 2012), Public Health Agency of Canada (Skills Enhancement for Public Health) and NCCMT's online learning modules.

A related resource that assesses organizational capacity for using research evidence is:

- Canadian Foundation for Healthcare Improvement's (Canadian Health Services Research Foundation) Self-Assessment Tool

Implementing the Tool

Who is Involved?

The tool would be administered to individual staff members of a public health unit, and could be aggregated and analyzed at the team or division level.

Steps for Using Tool

The instrument consists of the following sections:

- Demographic questions
- Evidence-Based Decision Making
- Importance and Availability of Evidence-Based Decision Making
- Potential Resources for Evidence-Based Decision Making

Conditions for Use

Evaluation and Measurement Characteristics

Evaluation

Has not been evaluated

Validity

Validity not tested

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Reliability

Reliability not tested

Methodological Rating

Unknown/No evidence

Tool Development

Developers

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These summaries are written by the NCCMT to condense and to provide an overview of the resources listed in the Registry of Methods and Tools and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

National Collaborating Centre for Methods and Tools

Centre de collaboration nationale des méthodes et outils

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Division of Public Health Sciences, Alvin J. Siteman Cancer Centre, Washington University School of Medicine

Method of Development

Health department leaders and academic researchers developed the instrument and collected data using the instrument in Kansas and Mississippi to assess evidence-based decision making (EBDM) capacity. The core components of the survey were adapted from another instrument to identify barriers and competency gaps in EBDM administered at the national level (Jacobs et al., 2010). Additional questions addressed expectations and incentives for using EBDM, self-efficacy in EBDM skills and estimates of EBDM within the organization.

Release Date

2012

Contact Person

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Resources

Title of Primary Resource	A survey tool for measuring evidence-based decision making capacity in public health agencies
File Attachment	None
Web-link	http://www.biomedcentral.com/1472-6963/12/57
Reference	Jacobs, J.A., Clayton, P.F., Dove, C., Funchess, T., Jones, E., Perveen, G., Skidmore, B. et al. (2012). A survey tool for measuring evidence-based decision making capacity in public health agencies. *BMC Health Services Research, 12* (57). doi: 10.1186/1472-6963-12-57.
Type of Material	Journal article
Format	Periodical
Cost to Access	None
Language	English
Conditions for Use	Copyright © 2012 Jacobs et al; licensee BioMed Central Ltd.

These summaries are written by the NCCMT to condense and to provide an overview of the resources listed in the Registry of Methods and Tools and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

National Collaborating Centre for Methods and Tools

Centre de collaboration nationale des méthodes et outils

Title of Supplementary Resource	Barriers to evidence-based decision making in public health: A national survey of chronic disease practitioners
File Attachment	None
Web-link	http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2925010/
Reference	Jacobs, J.A., Dodson, E.A., Baker, E.A., Deshpande, A.D. & Brownson, R.C. (2010). Barriers to evidence-based decision making in public health: A national survey of chronic disease practitioners. *Public Health Reports*, *125*(5), 736-742. PMCID: PMC2925010.
Type of Material	Journal article
Format	Periodical
Cost to Access	None
Language	English
Conditions for Use	Copyright © 2010 Association of Schools of Public Health
Title of Supplementary Resource	Evidence-Based Public Health: A fundamental concept for public health practice
File Attachment	None
Web-link	http://www.annualreviews.org/doi/full/10.1146/annurev.publhealth.031308.100134
Reference	Brownson, R.C., Fielding, J.E. & Maylahn, C.M. (2009). Evidence-Based Public Health: A fundamental concept for public health practice. *Annual Review of Public Health*, *30*, 175-201. doi: 10.1146/annurev.publhealth.031308.100134.
Type of Material	Journal article
Format	Periodical
Cost to Access	None
Language	English
Conditions for Use	Copyright © 2009 Annual Reviews
Title of Supplementary Resource	Tools for implementing an evidence-based approach in public health practice
File Attachment	None
Web-link	http://www.cdc.gov/pcd/issues/2012/11_0324.htm
Reference	Jacobs, J.A., Jones, E., Gabella, B.A., Spring, B. & Brownson, R.C. (2012). Tools for implementing an evidence-based approach in public health practice. *Preventing Chronic Disease*, *9*: 110324. doi: http://dx.doi.org/10.5888/pcd9.110324
Type of Material	Journal article
Format	Periodical
Cost to Access	None
Language	English
Conditions for Use	Not specified

These summaries are written by the NCCMT to condense and to provide an overview of the resources listed in the Registry of Methods and Tools and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

National Collaborating Centre for Methods and Tools

Centre de collaboration nationale des méthodes et outils

Organizational readiness to change assessment (ORCA) tool

A summary of Helfrich, C. D., Li, Y.-F., Sharp, N. D. & Sales, A. E. (2009). Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework. *Implementation Science, 4*: 38. doi: 10.1186/1748-5908-4-38.

National Collaborating Centre for Methods and Tools
Centre de collaboration nationale des méthodes et outils

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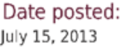
Keywords:
Implement, Organizational capacity and management, Organizational change


Date posted:
July 15, 2013

Date updated:
July 15, 2013

Relevance For Public Health

This tool can be used to identify and monitor organizational strengths and weaknesses to support implementation of evidence-based practices. Although developed for clinical settings, the ORCA tool can be applied to support innovation in public health settings.

Description

This tool measures organizational readiness to implement evidence-based practices in clinical settings. The Organizational Readiness to Change Assessment (ORCA) instrument consists of three major scales that measure:

- strength of the evidence for the proposed change/innovation;
- quality of the organizational context to support the practice change; and
- organizational capacity to facilitate the change.

The ORCA tool was developed from the Promoting Action on Research Implementation in Health Services (PARIHS) framework, a theoretical model to guide implementation of evidence-based interventions. The ORCA instrument operationalizes the constructs defined in the PARIHS framework.

The tool consists of 77 items, with subscales, grouped according to the main areas of the PARIHS framework:

- Evidence: the nature and strength of the evidence and its potential for implementation (4 subscales)
- Context: the environment or setting in which the proposed change is to be implemented (6 subscales)
- Facilitation: capacity or types of support needed to help people change their attitudes, behaviours, skills and ways of thinking and working (9 subscales)

Implementing the Tool

Who is Involved?

Any individuals who are involved in implementing an evidence-based practice, and using the ORCA tool, would be involved in administering and interpreting the tool.

Steps for Using Tool

The Organizational Readiness to Change Assessment (ORCA) tool consists of 77 items in the following scales:

1. Evidence Assessment:

- Amount of discord within the practice team about evidence (the extent to which a respondent sees colleagues concluding a weaker or stronger evidence base than the respondent)
- Research evidence
- Clinical experience
- Patient preferences

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National Collaborating Centre for Methods and Tools | www.nccmt.ca Page 1

2. Context Assessment:

- Senior leadership culture
- Staff culture
- Leadership behaviour
- Measurement (leadership feedback)
- Opinion leaders
- General resources

3. Facilitation Assessment (to assess the organization's capacity for internal facilitation to support change):

- Senior leaders practices
- Champion characteristics
- Leadership implementation roles
- Implementation team roles
- Implementation plan
- Project communication
- Project progress tracking
- Project resources and context
- Project evaluation

Conditions for Use

Copyright © 2009 Helfrich et al; licensee BioMed Central Ltd. The ORCA tool is open to use without licensing permissions. Users should acknowledge the Quality Enhancement Research Initiative (QUERI) Program at the US Department of Veterans Affairs and alert the program when using the tool.

Evaluation and Measurement Characteristics

Evaluation

Has been evaluated.

The authors conducted two sets of psychometric analyses on data from three quality improvement projects conducted in the Veterans Health (VA) Administration between 2002 and 2006. In each project, the ORCA instrument was administered to staff. Two sets of psychometric analyses were conducted:

1) item analysis to determine if items within scales correlate as predicted (reliability)

2) exploratory factor analyses of aggregated subscales to determine how many underlying factors may be present, and their relationships to each other (validity)

Also, Hagedorn and Heideman (2010) tested the utility of the ORCA tool in a clinical setting, where the ORCA was used at baseline and after implementation of hepatitis prevention services in substance use disorders (SUD) clinics. This study provides preliminary support of ORCA as a measure of organizational readiness to change.

Validity

Validity properties meet accepted standards. Exploratory factor analysis applied to the aggregated subscale scores support three underlying factors, with the majority of subscale scores clustered according to the core elements of the PARIHS framework. However, subscales measuring champion characteristics and availability of resources failed to load significantly on any factor, and the leadership practices subscale loaded on context rather than facilitation.

Reliability

Reliability properties meet accepted standards. Reliability tests indicate that most subscales of the ORCA tool meet

standard requirements of 0.80. Cronbach's alpha for reliability for the scales were 0.74, 0.85 and 0.95 for the evidence, context and facilitation scales, respectively. However, reliability was poor for three evidence subscales.

Methodological Rating

Moderate

Tool Development

Developers

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Method of Development

The Veterans Administration's (VA) Ischemic Heart Disease Quality Enhancement Research Initiative developed the ORCA instrument to assess organizational readiness to implement evidence-based health care interventions.

Release Date

2009

Contact Person

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These summaries are written by the NCCMT to condense and to provide an overview of the resources listed in the Registry of Methods and Tools and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

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Resources

Title of Primary Resource	Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework
File Attachment	None
Web-link	http://www.implementationscience.com/content/4/1/38
Reference	Helfrich, C. D., Li, Y.-F., Sharp, N. D. & Sales, A. E. (2009). Organizational readiness to change assessment (ORCA): Development of an instrument based on the Promoting Action on Research in Health Services (PARIHS) framework. *Implementation Science*, *4*: 38. doi: 10.1186/1748-5908-4-38.
Type of Material	Journal article
Format	Periodical
Cost to Access	None
Language	English
Conditions for Use	Copyright © 2009 Helfrich et al; licensee BioMed Central Ltd. The ORCA tool is open to use without licensing permissions. Users should acknowledge the Quality Enhancement Research Initiative (QUERI) Program at the US Department of Veterans Affairs and alert the program when using the tool.

Title of Supplementary Resource	The relationship between baseline Organizational Readiness to Change Assessment subscale scores and implementation of hepatitis prevention services in substance use disorders treatment clinics: a case study
File Attachment	None
Web-link	http://www.implementationscience.com/content/5/1/46
Reference	Hagedorn, H. J. & Heideman, P. W. (2010). The relationship between baseline Organizational Readiness to Change Assessment subscale scores and implementation of hepatitis prevention services in substance use disorders treatment clinics: a case study. *Implementation Science*, *5*: 46. doi: 10.1186/1748-5908-5-46.
Type of Material	Journal article
Format	Periodical
Cost to Access	None
Language	English
Conditions for Use	Copyright © 2010 Hagedorn and Heideman; licensee BioMed Central Ltd.

APPENDIX C.

On-line Survey Report

LEADERSHIP COMPETENCIES FOR PUBLIC HEALTH PRACTICE IN CANADA

REPORT OF AN ON-LINE SURVEY

TINA STRUDSHOLM, MSc
ARDENE ROBINSON VOLLMAN, PhD RN
WILFREDA E. THURSTON, PhD

Revised September 2014

Community Health Nurses of Canada
Community Health Nurses of Canada (CHNC) is a national organization for community health registered nurses to advance practice and to improve the health of Canadians. CHNC represents the voices of community health nurses; advances practice excellence; creates opportunities for partnerships across sectors and networks; strengthens community health nursing leadership; advocates for healthy public policy to address social and environmental determinants of health; and promotes a publicly funded, not for profit system for (community) health. CHNC is an associate member of the Canadian Nurses Association (CNA).

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- **Canadian Institute of Public Health Inspectors**
- **Manitoba Public Health Managers Network**

We also wish to acknowledge the following for their contribution in supporting the completion of this work:

The Project Steering Committee

- Ruth Schofield, Past President, CHNC (Chair)
- Genevieve Currie, CHNC Standards and Competencies Standing Committee
- Phi Phan, Canadian Institute of Public Health Inspectors
- Lynda Tjaden, Manitoba Public Health Managers
- Ardene Robinson Vollman, Academic Partner
- Helena Wall, Project Consultant
- Ann Manning, CHNC Executive Director

The Expert Advisory Committee

- Ruth Schofield, Past President, CHNC (Chair)
- Claire Betker, National Collaborating Centre Determinants of Health
- Kevin Churchill, Health Promoter Representative
- Kristine Crosby, Canadian Association of Schools of Nursing
- Genevieve Currie, CHNC Standards and Competencies Standing Committee
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- Gary O'Toole, Public Health Inspector Representative
- Steven Patterson, Public Health Dentistry Representative
- Greg Penny, Canadian Public Health Association
- Maura Ricketts, Public Health Physician Representative
- Pat Vanderkooy, Public Health Dietitian Representative

Consultants for this Project

- Project Consultant – *Innovative Solutions Health Plus:* Helena Wall and Alexandra Henteleff
- Academic Partner Environmental Scan and Evaluation – *Robinson Vollman Inc.:* Ardene Robinson Vollman, PhD RN; W. E. (Billie) Thurston, PhD; Lynn Meadows, PhD Tina Strudsholm, MSc

We wish to acknowledge the following people who assisted with distribution of the on-line survey: Ann Manning, Leanne Rajotte, Phi Phan, Steven Patterson, Corinne Eisenbraun, Carol Schnittjer, Pat Vanderkooy, Julie Slack, Maura Ricketts, Audrey McNeill, Kevin Churchill, and Brenda Guarda. Kathy Dirk supported the report writing and preparation for publication.

Leadership Competencies for Public Health Practice in Canada

Report of an On-line Survey

Table of Contents

1. Introduction 1
2. Background 1
3. Research Questions 2
4. Methods 2
5. Results 2
5.1 Describe Good Leaders: Knowledge Areas 6
5.2 Describe Good Leaders: Skills 6
5.3 Describe Good Leaders: Behaviours 6
5.4 Describe Good Leaders: Other Comments 8
5.5 Barriers to Public Health Leadership: Personal Barriers 8
5.6 Barriers to Public Health Leadership: Organizational Barriers 9
5.7 Barriers to Public Health Leadership: Macro Level Barriers 9
5.8 Enablers for Public Health Leadership: Personal Enablers 10
5.9 Enablers for Public Health Leadership: External Enablers 10
5.10 Barriers and Enablers to Public Health Leadership: Other Comments 12
5.11 Organizational Readiness 12
5.12 Summary of Results 13
5.13 Strengths and Limitations 14
6. Discussion 15
7. Conclusions 18
8. Recommendations 19

References 20

Leadership Competencies for Public Health Practice in Canada

Report of an On-line Survey

1. Introduction

The aim of the Leadership Competencies for Public Health Practice in Canada (LCPHPC) Project is to build a set of leadership competencies for use by the seven disciplines in public health (dentistry, epidemiology, health promotion, inspection, medicine, nursing, nutrition). The Environmental Scan component includes: scoping review of the literature (Phase I), on-line survey (Phase II), and focus group webinars (Phase III). This report documents the results of the on-line survey, undertaken in Fall-Winter 2013-14, wherein members of professional associations corresponding to the seven public health disciplines engaged in the LCPHPC Project were asked to respond to a survey created for the purpose of this phase of the Environmental Scan and circulated to them electronically by their respective professional groups.

2. Background

The Public Health Agency of Canada (PHAC) has, since the SARS outbreak in 2003, supported the development of generic public health competencies followed by the development of discipline-specific competencies for the seven professional groups that are active in public health practice in Canada. All of the discipline-specific competencies have a separate competency labelled "Leadership". [1] Questions have surfaced in recent years about what leadership in the public health context means, and what detailed competencies are required to further articulate public health leadership. To address this, the PHAC has funded the Community Health Nurses of Canada (CHNC) and partners to develop leadership competencies for public health in Canada.

According to the PHAC:

> Leadership is described in many ways. In the field of public health it relates to the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of their community and/or the organization in which they work. It involves inspiring people to craft and achieve a vision and goals. Leaders provide mentoring, coaching and recognition. They encourage empowerment, allowing other leaders to emerge.[2]

[1] Public Health Inspection has since incorporated its stated leadership competencies with other competencies because its membership did not find them useful as written. Health Promotion competencies are not finalized.

[2] Retrieved July 17, 2013 from the PHAC website, Glossary of Terms: http://www.phac-aspc.gc.ca/php-psp/ccph-cesp/glos-eng.php

Competency is defined as "a set of defined behaviours that provide a structured guide enabling the identification, evaluation and development of the behaviours in individuals".[3]

A scoping review of the published and unpublished literature using a modified Arksey and O'Malley (2005) framework has identified qualities of successful public health leaders and enablers/facilitators and barriers for leadership in public health (Vollman, Thurston, Meadows, & Strudsholm, 2013). An important step in preparing national competencies for the seven disciplines is to understand the degree to which these public health professionals agree with the results of the review, and how they priorize these competencies.

3. RESEARCH QUESTIONS

1. What are the demographic characteristics of the respondents to the survey?
2. How do public health professionals from the seven disciplines engaged in the LCPHPC Project rank the results from the literature with respect to desirable public health leader qualities, and enablers/facilitators and barriers for public health leadership?
3. What is the degree of engagement of public health organizations in Canada with regard to leadership development, and how likely are they to implement leadership competencies?

[3] Retrieved July 17, 2013 from Wikipedia, the free encyclopedia, https://en.wikipedia.org/wiki/Competence_%28human_resources%29

4. METHODS

The survey tool "Leadership Competencies for Public Health in Canada" was prepared using FluidSurveys™. The survey link was distributed via email to the seven members of the Expert Advisory Committee of the LCPHPC Project, delegates from the professional associations representing each of the seven public health disciplines (dentistry, epidemiology, health promotion, inspection, medicine, nursing, nutrition), who in turn distributed the survey link via email to the membership of their professional association. The survey link included a formal invitation to participate, and details to ensure informed consent and to meet requirements of the University of Calgary Research Ethics Board. Survey instructions asked that the survey link not be forwarded by recipients to others in order to keep track of the number of invitations to participate sent out. If participants were aware of other groups that wanted to (or should, in their opinion) participate in the survey, they were asked to refer them to the research associate, who would subsequently send out an invitation to participate in the survey. Using a modified Dillman Total Design Survey Method (Hoddinott & Bass, 1986), reminders to distribute the survey link were sent 3 times. The survey was opened November 20, 2013 and closed January 20, 2014.

5. RESULTS

There were 821 total responses to the on-line survey with 612 completed responses, for a consequent completion rate of 72%. The average completion time was just under 36 minutes (35:53). Almost a quarter of respondents were male (24%), and just over three quarters were

female (76%). Responses were collected from all seven public health disciplines (Figure 1). Respondents from environmental health/inspection and public health nursing account for over half (52%) of the received surveys (27% and 25% respectively). The "other" category comprised those working in: community development; education (university settings); evaluation, research, and policy; management and human resources; and public health programs such as controlled substance inspection, sexual health, family health, communicable disease and infection control, and public health interventions. The "other" category also included retired individuals and those whose experience encompassed multiple disciplines, for example a "combined environmental health and nursing portfolio".

The overall survey response rate was 18% (Table 1). Notably, response rates varied across disciplines. The range in response rates was from the highest of 39% in community/public health nursing, to the lowest of 8% among environmental health/inspection. The mean response rate among the seven public health disciplines was 26%, and the median response rate was 30%. The denominator represents the number of email addresses to which the invitation to participate in the survey was sent. Emails that were reported as bounced back or invalid were subtracted from the original number of emails sent in order to get the most accurate denominator possible.

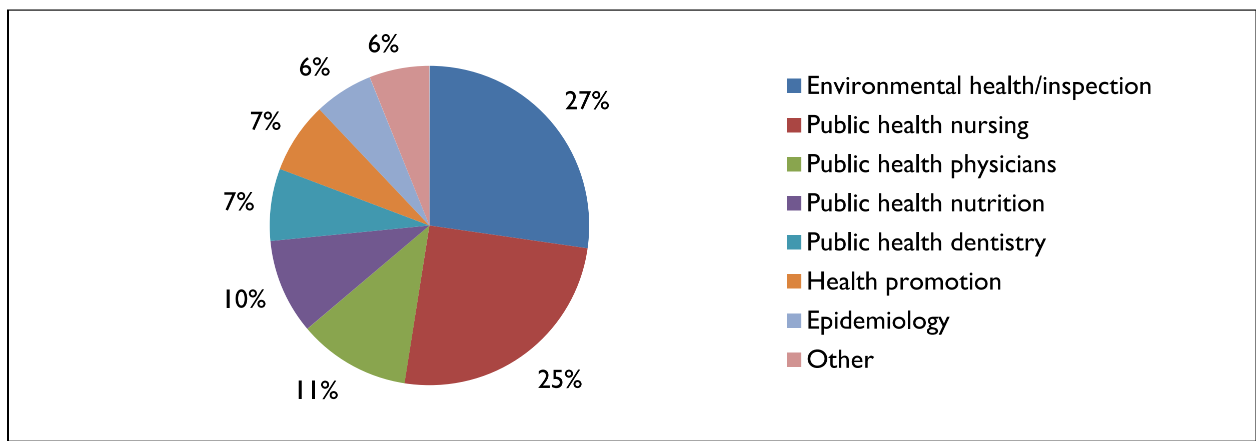


Figure 1. Distribution of survey responses by public health discipline (n=821)

Table 1. Response rate by public health discipline

	Count	Denominator	Response Rate (%)
Environmental health/Inspection	224	2800	8%
Epidemiology	49	337	15%
Health promotion	59	199	30%
Public health dentistry	60	183	33%
Public health physicians	93	252	37%
Public health nursing	207	535	39%
Public health nutrition	79	354	22%
Other	50		
Total	821	4660	18%

Notes: Count = Number of survey responses; Denominator = Number of email invitations sent

A third of survey participants had worked in public health for more than 20 years (Figure 2). The group with the least experience (10 years or less) accounted for just over a third (39%) of respondents. The remaining 28% of participants had worked from 11 – 20 years in public health.

As summarized in Table 2, the greatest proportion of respondents was from front line workers (42%). Approximately one quarter of respondents characterized their level in their organization as first-line management or middle management. In Table 3 the primary work function of participants are described. Most were involved in direct service provision, administration or program planning. Within the "other" category, participants repeatedly noted that they could not identify a primary work function, as their responsibilities encompassed several areas. Primary work functions that were specified within the "other" category included: analyst; capacity building and community development; information technology support; knowledge translation; liaison (between local municipal government and health authority); clinical specialist consultant; nurse practitioner (primary care); practice and organizational effectiveness consultant; babysitter; and parent.

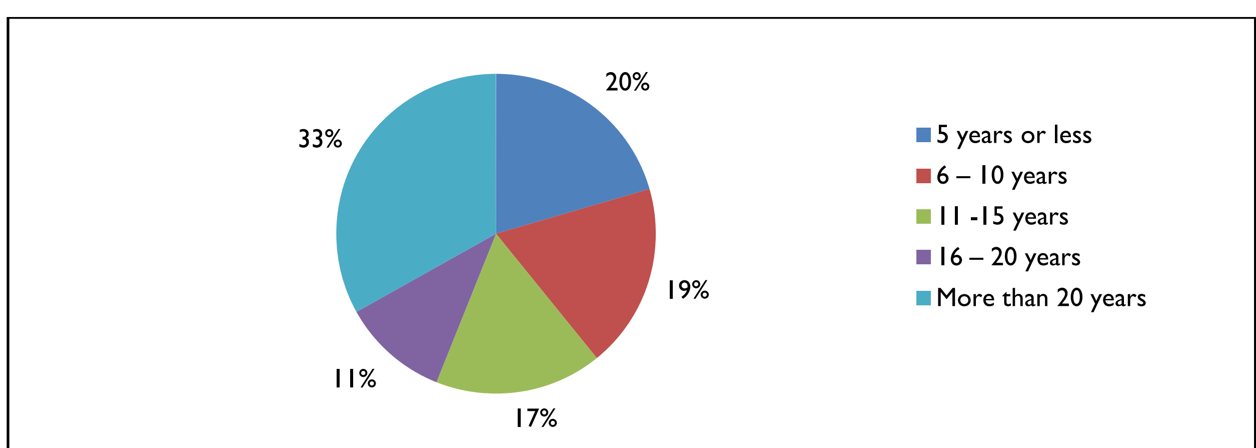


Figure 2. Distribution of survey responses by years of working in public health (n=815)

Table 2. Level in their organization of respondents

Response	Chart	Percentage	Count
Front line worker		42%	340
First line management (e.g., supervisor, team leader)		11%	89
Middle management (e.g., program manager, clinic manager)		15%	122
Senior administration (e.g., director, vice president)		9%	76
Other (e.g., specialist, consultant) (please specify)		23%	189
	Total Responses		**816**

Table 3. Primary work function of respondents

Response	Chart	Percentage	Count
Administration		14%	114
Clinical specialist, consultant		10%	81
Direct service provision		26%	214
Epidemiology		5%	40
Evaluation		3%	21
Policy		5%	39
Program planning		12%	96
Research		3%	28
Teaching		6%	46
Other (please specify)		17%	136
	Total Responses		**815**

The survey reached respondents from across the country (Figure 3). Over half of participants worked in Ontario (58%). Just under a third (31%) of respondents worked in the western provinces (British Columbia, Alberta, Manitoba, and Saskatchewan). Nearly 7% of participants worked in the Atlantic Provinces (Nova Scotia, Newfoundland and Labrador, New Brunswick, Prince Edward Island); 2% of respondents worked in Quebec and 1% in the Northern territories.

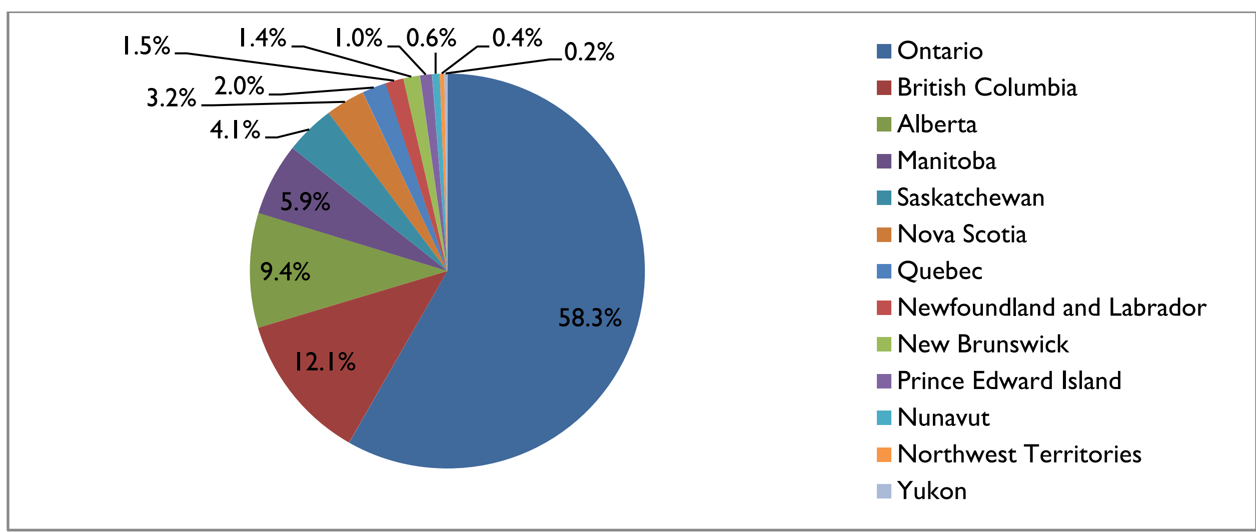


Figure 3. Distribution of survey responses by geography (n=810)

The PHAC definition of leadership was determined as suitable for one's discipline among 82% of respondents, and not suitable among 1% of respondents; 17% participants felt the definition was only somewhat suitable in their line of work (Table 4). Participants' suggestions for modifications to the definition were about public health context, scope and nature of leadership, public health leaders' tasks and responsibilities, and the personal qualities and skills of leaders in public health.

Table 4. Is the following definition suitable for your discipline?

Response	Chart	Percentage	Count
Yes		82%	552
No		1%	9
Somewhat, please comment...		17%	113
	Total Responses		674

A repeated revision called for by respondents was the recognition of public health context and "definition of effectiveness and success in terms of population health". Furthermore, the PHAC definition did "not address the key focus of public health in terms of health equity and reduction of health inequity as the key outcome", or the goal to "equalize opportunities (conditions) for the population/community to be healthy", and ultimately that effective public health leadership leads to a "positive impact on the health of the population".

Participants also noted the importance to more deliberately define the scope and nature of leadership. For instance, distinguish leadership from management: "to make clear that leadership is not the exclusive domain of management". Other remarks claimed that the definition of leadership must not only focus on individuals as leaders, but also to "teams and groups": "Health Authorities can be leaders, agencies can be leaders, professional organizations can be leaders, etc." Another respondent suggested "the notion of distributed leadership is missing from this [PHAC] definition. As we move towards a knowledge society it is important that we each play a part in [being] responsible for fostering our own leadership and be the best leader in the role that we currently play in public health".

There was objection to the term "enable", and suggestion that "empower" would be more appropriate.

Other word choice revisions questioned the opening statement "Leadership is described in many ways" and suggested alternatives including: "Leadership is dynamic" and "Leadership in public health is multifaceted.

5.1 Describe Good Leaders: Knowledge Areas

Respondents were asked to rank the top five of 10 knowledge areas that describe good leaders (Figure 4). The top five categories with the most votes were: population and public health (n=537); the determinants of health (n=508); values and ethics (n=441); health demographics and outcomes (n=352); and inequality, inequity and social justice (n=337).

5.2 Describe Good Leaders: Skills

Respondents were asked to rank the top five of 10 skill abilities that describe good leaders (Figure 5). The top five categories with the most votes were: "communicates clearly" (n=524); "supports, empowers, builds capacity" (506); "has systems/critical thinking skills" (457); "builds consensus" (n=431); and "uses evidence-based decision making" (n=429).

5.3 Describe Good Leaders: Behaviours

Respondents were asked to rank the top five of 10 leadership behaviours that describe good leaders (Figure 6). The top five categories with the most votes were: "serves as a catalyst" (n=484); "is accountable" (n=425); "demonstrates drive, motivation, forward thinking" (n=381); "engenders rapport and trust" (n=359); and "models and mentors" (n=357).

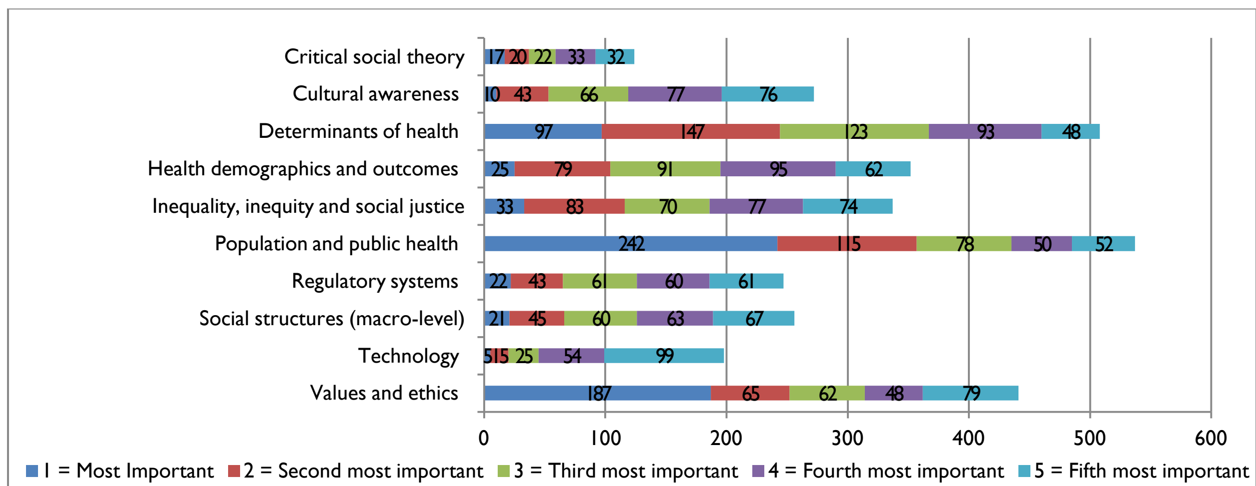


Figure 4. Distribution of rank of importance by knowledge area (n=659).

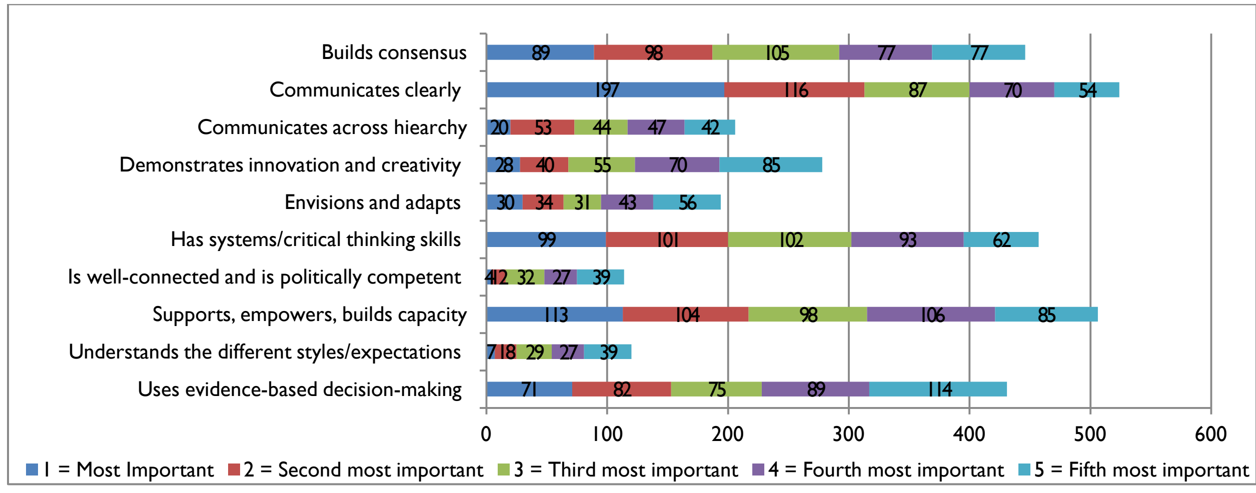


Figure 5. Distribution of rank of importance by skills (n=658).

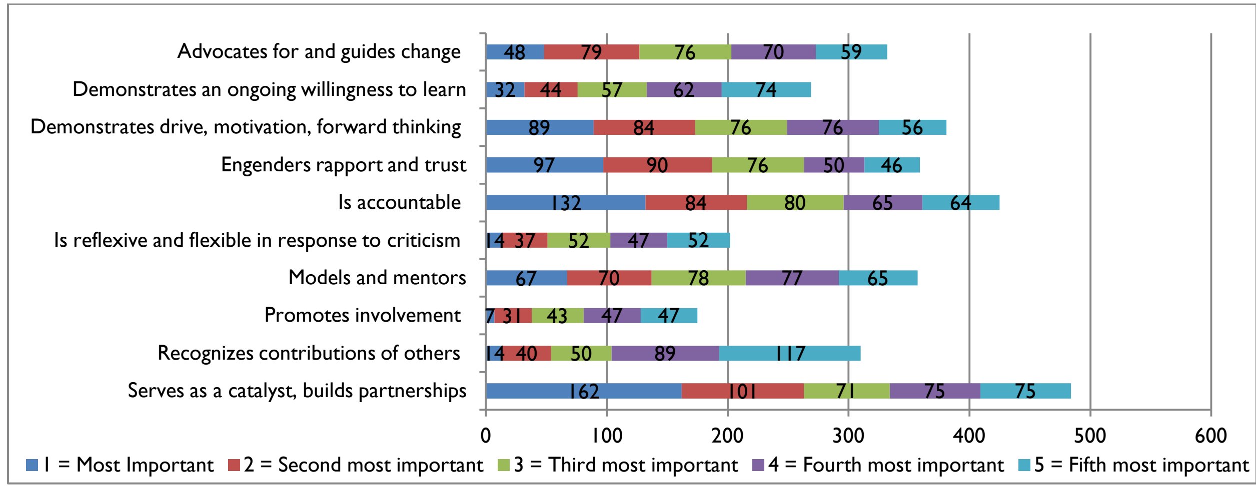


Figure 6. Distribution of rank of importance by leadership behaviours (n=662).

5.4 Describe Good Leaders: Other Comments

The survey asked participants if there were other important knowledge areas, skills, or behaviours that described good leaders. Most of the "other" comments provided examples of what was already in the list of categories presented. Some new areas of leadership competencies were articulated, such as knowledge of general theories, research methods, management theory and knowledge, and a demonstrated passion for public health.

Additional general theories mentioned included communication theory, leadership theory, and marketing theory. The research methods identified were appreciative inquiry and phenomenology. Participants also brought up management concerns such as management theory, organization theory, and knowledge of union and human resources issues.

Passion for public health among good public health leaders was described as a demonstrated commitment to professional values and ethics, a focus on equity, and having the courage to take an unpopular stance in order to advance the public health agenda.

The results presented so far provide information regarding the description of good public health leadership in terms of knowledge areas, skills and abilities, and behaviours. The following sections pertain to the context of public health leadership in Canada. In particular, results regarding barriers and enablers of public health leadership are presented.

5.5 Barriers to Public Health Leadership: Personal Barriers

Respondents were asked to rank the top five of 10 personal barriers to public health leadership in Canada, one's province, or agency (Figure 7). The top five categories with the most votes were: "colleagues and team members who are overloaded" (n=467); "organizational context and setting; lack of trust" (n=369); "lack of political power; lack of political skills" (n=363); "lack of mentoring; lack of education or training" (n=359); "underutilization of evidence to inform decisions" (n=311).

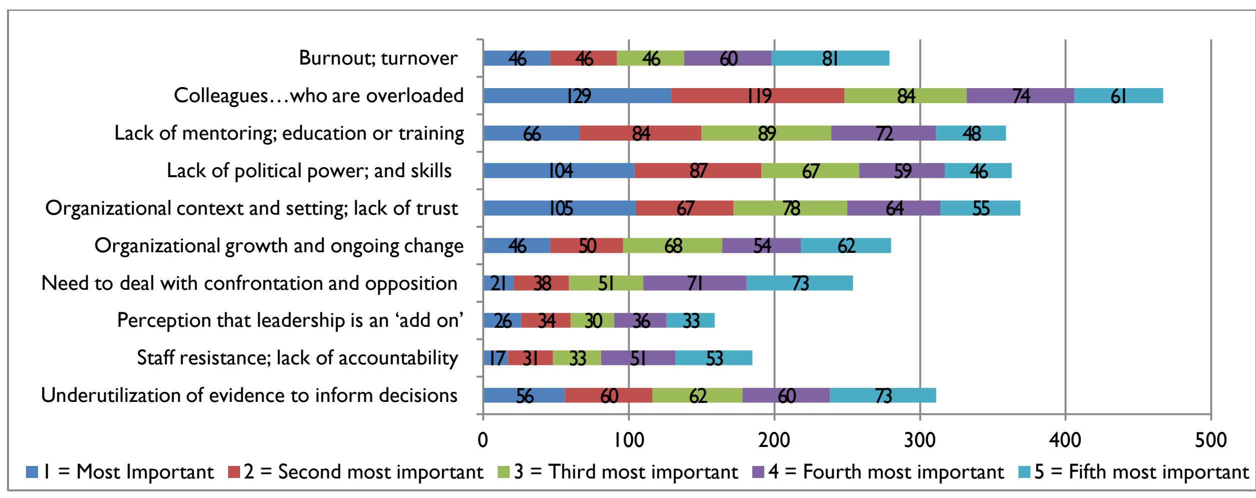


Figure 7. Distribution of rank of importance by personal barriers (n=616).

5.6 Barriers to Public Health Leadership: Organizational Barriers

Respondents were asked to rank the top five of 10 organizational barriers to public health leadership in Canada, one's province, or agency (Figure 8). The top five categories with the most votes were: "organizational structures that do not align with professional values and priorities" (n=372); "competition between clinical care and public health" (n=358); "absent culture of improvement" (n=322); "no dedicated time for leadership" (n=312); and "unclear mission; misalignment of goals, objectives, and incentives" (n=288).

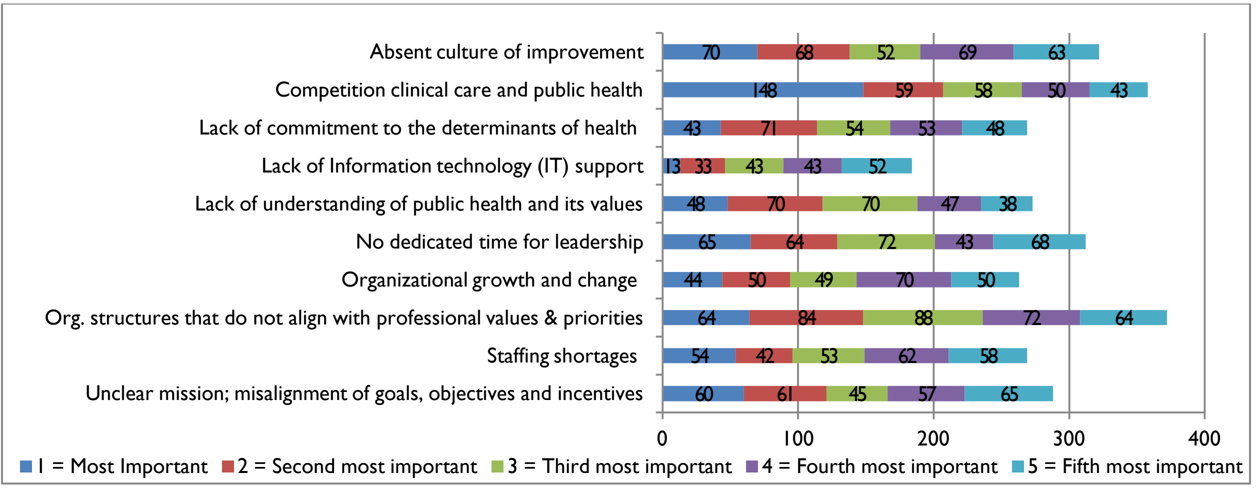


Figure 8. Distribution of rank of importance by organizational barriers (n=609)

5.7 Barriers to Public Health Leadership: Macro Level Barriers

Respondents were asked to rank the top five of 10 macro level barriers that public health leaders face (Figure 9). The top five categories with the most votes were: "the public health sector is a small part of the larger health care system; with competition between curative and preventative activities" (n=495); "outcomes of diminished funding; challenges for adequate funding of public health infrastructure, including technology"(n=434); "lack of supportive legislation in some areas; legislation and public policy that affect population health outcomes" (n=369); "sustainability of programs and efforts in the public health sector" (n=349); and "low visibility of public health practitioners" (n=342).

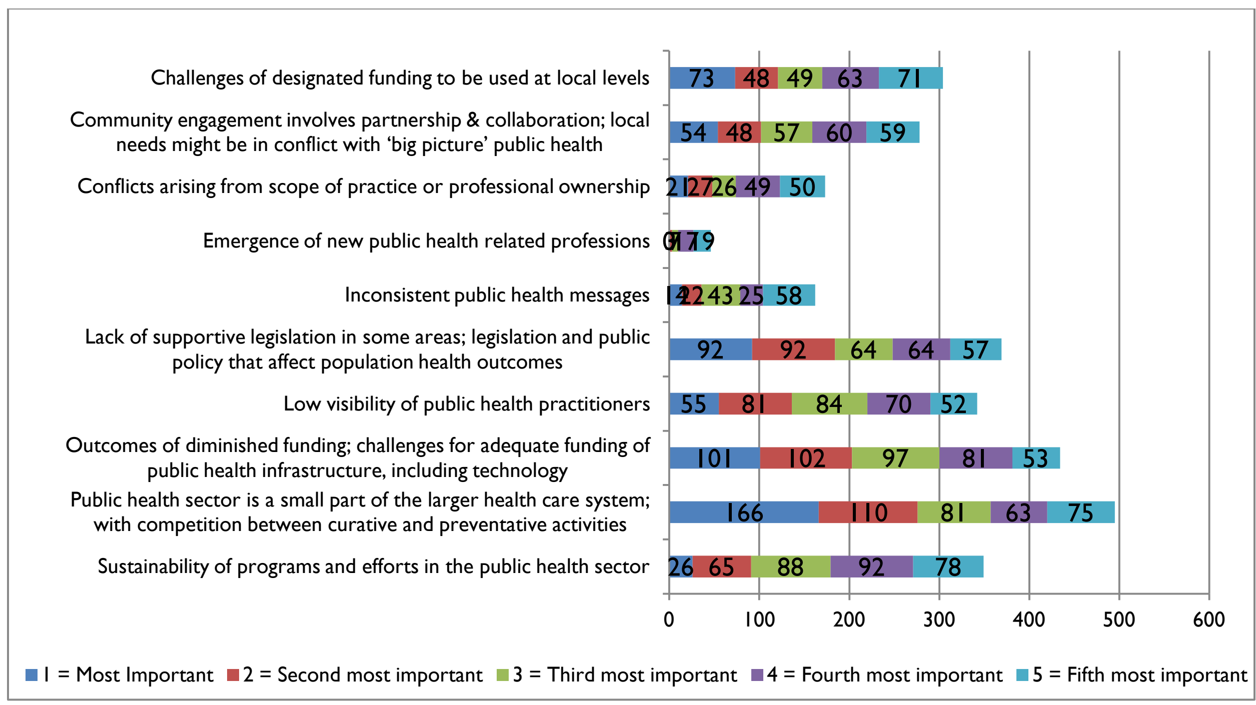


Figure 9. Distribution of rank of importance by macro-level barriers (n=602)

5.8 Enablers for Public Health Leadership: Personal Enablers

Respondents were asked to rank the top five of 10 personal enablers for public health leadership (Figure 10). The top five categories with the most votes were: "are empowering; enable others by providing strong, unwavering support" (n=442); "are champions for public health principles, actions and interventions" (n=410); "are responsive and accessible" (n=367); "are able to engender trust" (n=324); and "have credibility, are opinion leaders" (n=309).

5.9 Enablers for Public Health Leadership: External Enablers

Respondents were asked to rank the top five of 10 external enablers for public health leadership (Figure 11). The top five categories with the most votes were: "organizations that value leadership at all levels" (n=418); "organizations that foster trust through ongoing and transparent communication" (n=388); "sustainable funding at system and community levels" (n=385); "mentorship and succession planning; professional development and networking support" (n=331); and "organizational empowerment of leadership vision" (n=328).

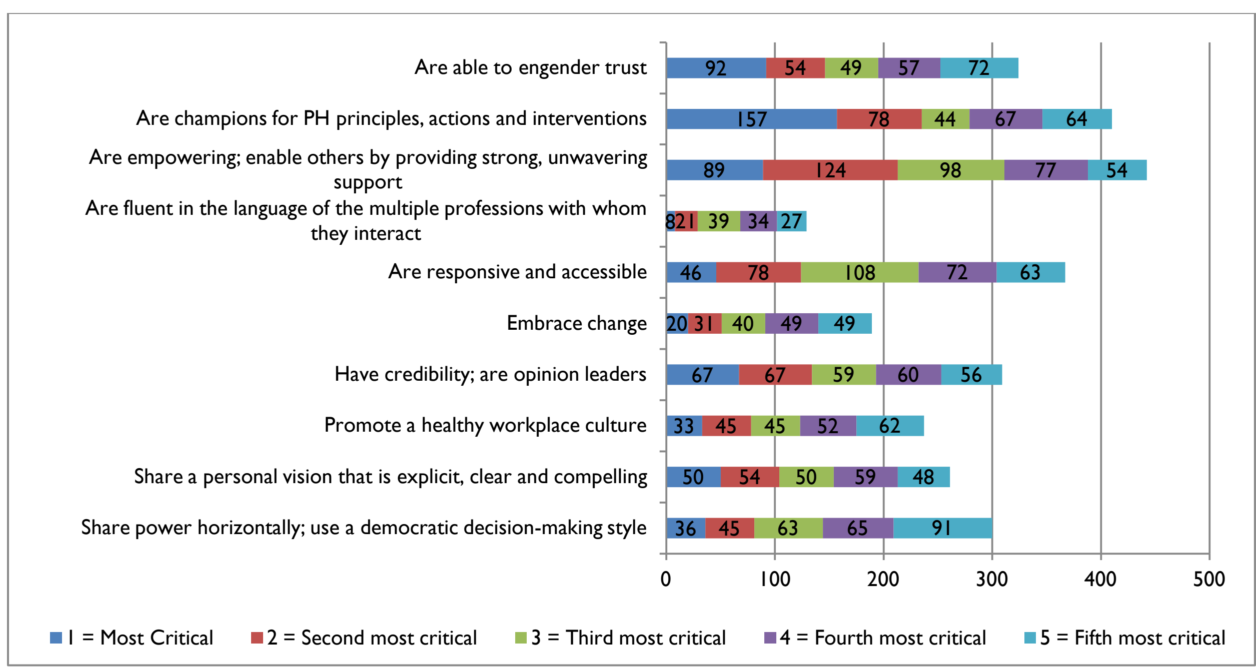


Figure 10. Distribution of how critical by personal enablers (n=598)

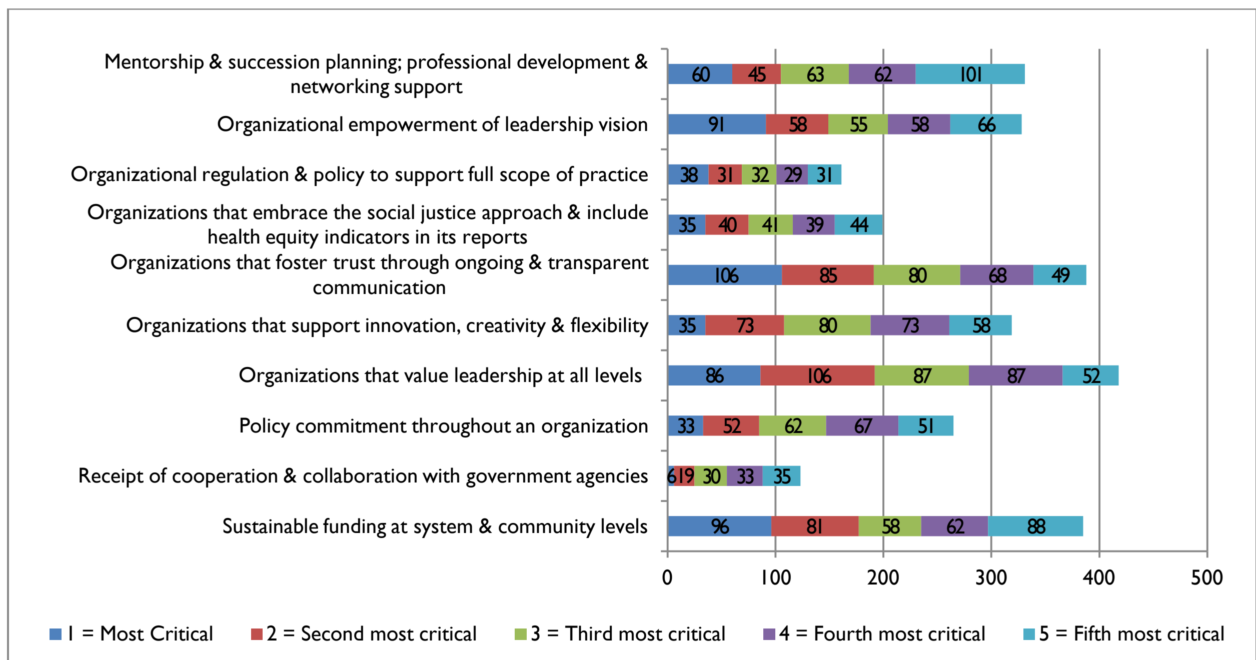


Figure 11. Distribution of how critical by external enablers (n=590)

5.10 Barriers and Enablers to Public Health Leadership: Other Comments

The survey asked participants if there were other barriers and enablers to public health leadership in Canada. Most of the "other" comments provided examples of barriers and enablers that were originally presented. Some new points came up, such as geographical barriers to leadership, and organizational credibility as an enabler to public health leadership.

Geography was recognized as a barrier to public health leadership. Participants noted the challenges of working in a large health authority that required a lot of time simply to traverse it. Furthermore, the challenge of geographical separation was mentioned as limiting opportunities for leadership given remote and isolated work contexts.

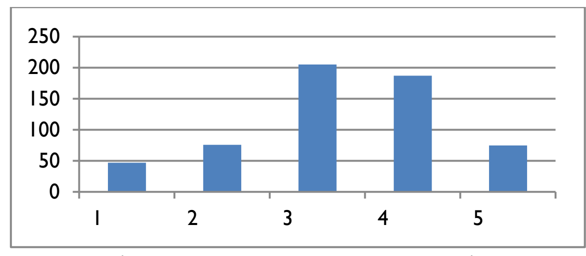
It was noted by participants that organizational credibility and role as opinion leaders in public health can foster public health leadership at an organizational level. Specifically, respondents mentioned organizational experience in advocacy work, and securing media presence and visibility for public health professionals and advocates. Towards organizational credibility, there was also a call for transparency, and "clear separation of roles of elected government politicians and the independent bureaucracy and experts that are employed by governments".

The results presented so far provided information regarding the description of good public health leadership and the barriers and enablers that shape the context of public health leadership in Canada. The following section pertains to organizational readiness. In particular, results about perceived employer support of leadership development will be reported.

5.11 Organizational Readiness

Participants were asked to rate how supportive their employer is of leadership development on a Likert scale of one to five, with one representing very unsupportive (Figure 12). The mode response was three, and the majority of respondents scored three or more. Participants were also asked how likely their employer is to implement leadership competencies for public health as developed by the LCPHPC Project on a Likert scale of one to five, with one representing very unlikely (Figure 13). The most frequent response was three, and most respondents scored the likelihood of their employer implementing leadership competencies as three or more. Furthermore, participants were asked to rate the likelihood that employers would implement a leadership development tool (e.g. framework, activities) on a Likert scale of one to five, with one representing very unlikely (Figure 14). The mode response was three, and most scored three or more.

Participants were asked to provide any additional comments regarding their employers' readiness for public health leadership. The main themes of responses were barriers, enablers, and current examples of leadership development (Table 5).



(1=very unsupportive, 5=very supportive)

Figure 12. Distribution of how supportive employer is of leadership development (n=590)

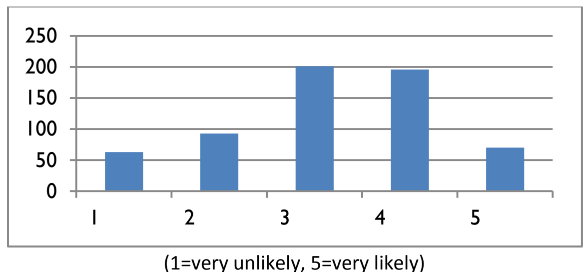


Figure 13. Distribution of how likely employer is to implement leadership competencies for public health developed by the LCPHPC Project (n=596)

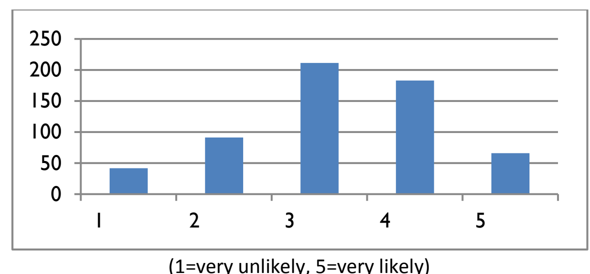


Figure 14. Distribution of how likely it is that employer will implement a leadership development tool (n=593)

Table 5. Summary of "other" comments about employers' readiness for public health leadership development

Barriers to organizational readiness for public health leadership development

- competing priorities
- insufficient or unreliable/short term allocation of resources
- lack of strategic vision
- lack of support for change from current leadership; lack of institutionalization (systems and process buy-in)
- lack of recognition of the value of leadership in public health and health promotion
- narrow definition of leadership
- no decision making power

Enablers to organizational readiness for public health leadership development

- a need for new framework
- organizational change
- organizational support/climate/values; and transition in leadership

Examples of current leadership development

- continuing learning for all levels of staff
- performance appraisal tool for staff based on public health discipline competencies
- mentoring and succession planning
- discussions underway about competencies in public health
- leadership development and training for management
- leadership development not specific to public health (e.g., LEADS [see http://www.leadersforlife.ca/site/framework])

5.12 Summary of Results

Overall, the results of the survey validated the literature review. The terminology used in the comments sections validated that the choices provided in the survey were comprehensive; although some people used different terminology, it was synonymous with the words used in the literature and the survey. In terms of prioritizing desirable knowledge areas, behaviours and skills of leaders, the respondents clearly defined the top five in each category, and among those choices, two to three stood out as the most important within categories. Similarly, enablers and barriers were explicitly prioritized by respondents.

5.13 Strengths and Limitations

The structure of the LCPHPC Project with representation from the seven public health disciplines and additional key stakeholders is one of its strengths. We used the Expert Advisory Committee and the Project Steering Committee to pilot the survey and determine the feasibility of the processes for distribution, collection, and analysis. Each discipline received the permission of their respective boards to engage in the research and agreed to distribute the survey to their professional membership on behalf of the researchers. This structure allowed us to apply to a single Ethics Board because the partners did not have to release their membership lists to us. Furthermore, the bilingual on-line survey platform facilitated a large scale national survey.

In terms of representation in the sample, Ontario is over-represented (Table 6). This is because two of the professional associations engaged in the LCPHPC Project (epidemiologists and biostatisticians; health promoters) were Ontario-based, whereas the other five were national. There is at present, to our knowledge, no national association for health promoters, but there is a national association for epidemiologists and biostatisticians (i.e., the Canadian Society of Epidemiologists and Biostatisticians (CSEB)). However, the CSEB is not represented on the Expert Advisory Committee for the LCPHPC Project, through which connections for distribution of the survey were made.

Quebec is under-represented in the sample (Table 6). The survey was available in both official languages, so survey format should not have been a barrier. In other respects, according to the distribution of population across Canada (Statistics Canada, 2013), the sample is reasonably representative (Table 6).

Table 6. Population and sample representation comparison

Province	2013 Population	% of Canadian Population	% of Survey Sample
NL	526.7	1.5	1.5
PEI	145.2	0.4	1.0
NS	940.8	2.7	3.2
NB	756.1	2.2	1.4
QC	8155.3	23.2	2.0
ON	13538.0	38.5	58.3
MB	1265.0	3.6	5.9
SK	1108.30	3.2	4.1
AB	4025.1	11.4	9.4
BC	4582.0	13.0	12.1
YT	36.7	0.1	0.2
NT	43.5	0.1	0.4
NU	35.6	0.1	0.6
Canada	**35,158.3**	**100**	**100**

Nurses and inspectors comprise the largest numbers in the seven disciplines, and the proportions of responders to the survey they represent in the sample illustrate that predominance (refer to Figure 1). Other than inspection which has mandatory membership of all certified public health inspectors, all other disciplines have voluntary membership that does not capture the full numbers of actual practising members of that discipline. Therefore, we were not able to capture anyone not a member of the disciplinary associations that have voluntary membership. This restriction may have caused a bias in the results.

Using the Total Design Survey Method (Dillman, 1978; Hoddinott & Bass, 1986) and leaving the survey open for several weeks allowed for a great deal of flexibility in data collection. Overall, the sample was very mature in age and in experience, thus likely has a substantial history in public health and exposure to leadership that fostered thoughtful responses to the survey questions. However, with the pleas for change evident in the literature and in the responses found in the on-line survey, is it reasonable to expect that this older workforce would be willing, or able, to make the adjustments necessary to transform the public health system?

6. DISCUSSION

The PHAC definition of leadership was supported by a majority of the respondents; the concerns expressed regarding what the definition did not include had a great deal of similarity among respondents. There was a call for including leadership goals and successful outcomes in terms of public health (e.g., health equity, reduction of health inequality, equalize opportunities/conditions for populations/communities to be healthy) in the definition. Some respondents were offended by the word "enable", preferring instead that the definition replace it with "empower"; enabling seems to be viewed as a negative term as used in the common parlance of addictions treatment. There was ambiguity in the language of leadership, as was revealed in the scoping literature review. Debates on terminology can be never-ending, and should not be allowed to derail progress.

With regard to knowledge areas that public health leaders should have, comments suggested that the options did not adequately capture the value of ethics in public health leadership in Canada. Ethics, understood as "the principles of conduct governing an individual or a group" [4] may be informed by the PHAC statement:

> Important values in public health include a commitment to equity, social justice and sustainable development, recognition of the importance of the health of the community as well as the individual, and respect for diversity, self-determination, empowerment and community participation. These values are rooted in an understanding of the broad determinants of health and the historical principles, values and strategies of public health and health promotion.

In public health, the implicit principles of conduct, otherwise referred to as the public health approach, are built on the foundation of critical social theory, a focus on health and wellness rather than illness, taking a population rather than individual orientation, understanding needs and solutions through community outreach, addressing health disparities and the health in vulnerable groups, addressing the social determinants of health, and intersectoral action and partnerships (Cohen et al., 2014). More

[4] Retrieved March 27, 2014 from http://www.merriam-webster.com/medical/ethics?show=0&t=1395960528

explicit principles of conduct have been outlined by Coughlin, Soskolne and Goodman (1997). They describe 10 moral rules: don't kill, don't cause pain, don't disable, don't deprive of freedom, don't deprive of pleasure, don't deceive, keep your promise, don't cheat, obey the law, and do your duty (p. 13). The topic of implicit versus explicit principles of conduct and values or ethics in public health will be further explored in the Environmental Scan's Phase III – focus group webinars with leaders in public health in Canada – to determine the meaning and locate examples that more fully describe the ethics of public health.

It is worth noting that understanding critical social theory, the underpinning of population health and health promotion, was not chosen as being among the top five necessary knowledge areas for leaders, yet the values and ethics that respondents are proposing are most often articulated in this particular family of theories. The science behind the work of addressing the social determinants of health and reducing health inequity is rooted in and informed by critical social theory. As Jeffrey Simpson (2012) stated, "If governments and their citizens were truly serious about health promotion, they would confront the social determinants of health, which would include employment and working conditions, housing, standards of living, and early childhood development" (p. 261). To confront these social determinates requires critical social theory because the individually based "wellness agenda" (p. 256) that has been informed by psychology and education theories has failed to improve the health of the public to date. Individuals cannot be expected to impact these determinants when social factors preclude redistribution of opportunities.

That respondents suggested that leaders need additional preparation in a broad range of theories (i.e., management, marketing, organization, communication, leadership) suggests that, depending on the role or job description of leaders within their respective organizations, there is a need for specific knowledge that goes beyond general leadership competencies and knowledge. However, there remains a misconception that leadership and management are the same thing. Perhaps some people were reflecting that better management skills among managers would make them better leaders, which is intuitively correct as trust and respect of the leader is needed. It could also be that respondents are calling for evidence-informed practice where theoretical knowledge informs leadership, management and policy formulation. The seminal document "Core competencies for public health in Canada" (PHAC, 2008) provides examples of how a given competency would be "levelled" for various stages in the organizational ladder (e.g., front line professional, consultant, specialists, and managers or supervisors). Similarly, we ought to consider various stages or levels of leadership (e.g., novice, intermediate and advanced) when the final competency statements for the LCPHPC Project are developed. This issue will be referred to the Delphi component of the LCPHPC Project.

The public health sector is increasingly congruent with the clinical sector in that proponents from both are declaring that the health system cannot keep treating – it has to start preventing. However, data on primary care outcomes are more readily accessible and immediate than data on prevention and other public health action. There is no question that the literature and the survey both indicate a strong desire and pressing need for change in the health care system. We have had many documents in the last several decades that have been advocating for more health promotion, and injury and disease prevention (Simpson, 2012). The scoping literature review and the on-line survey agree: we need to start doing things

differently if we want a different health care system and a healthy population. However, this approach engenders tough decisions regarding how the health system is funded. Does government put more funds into public and population health (e.g., clear air, clean water, immunization, healthy children in healthy families, education and health literacy) and less into the acute and long term care sectors? Cohen et al. (2014) suggest that the population health approach is increasingly recognized for its role in reducing healthcare demand and contributing to health system sustainability. Further, respondents to the survey noted by their choices with respect to extra-organizational barriers (i.e., community, system) that the ongoing competition among the various sectors within the health system provokes dilemmas when cooperation and collaboration are needed to solve complex health issues.

Coughlin et al. (1997) note that "ethical concerns in public health often relate to the just allocation of scarce resources, including health care services" (p. 133). They go on to say it is impossible, with budgetary constraints and reform in the health system, to provide every procedure or preventive service that might potentially benefit every individual, and still manage to care for everyone. Two perspectives guide the ethics of public health: distributive justice and egalitarian justice. Rawls (2001), in his discussion of distributive justice, proposes that the *difference principle* permits inequalities in the distribution of goods only if those inequalities benefit the worst-off members of society. Some egalitarian justice critics have raised concerns about Rawls' position; Sen (2009), for example, has argued that we should attend not only to the distribution of primary goods, but also how effectively people are able to use those goods to pursue their ends. These ethical values differ from utilitarian and libertarian approaches to justice that guide the acute care sector and provide little protection for the disadvantaged in society.

Evidence from the on-line survey is consistent with the literature and echoes a preference for transformational leadership in public health and a desire for change that is needed for the sector to move forward. However, change takes a great deal of time; change agents need to be in place and valued. Thoughtful approaches to change and successful experiences of changing large organizations need to be communicated broadly. We are starting to see literature (e.g., McGibbon & Etowa, 2009; Peirson, Ciliska, Dobbins, & Mowat, 2012; Simpson, 2012) that does exactly this. Others can learn from early adopters of new approaches to public health leadership, as long as those stories get into the literature or are presented at national conferences.

The misconception that leadership is held in the hands and roles of management can be dispiriting and disempowering to other leaders in an organization. Organizational readiness for change comes in part from leadership; if there are a number of managers that do not value population health they will not become leaders who foster change toward the population health approach. If there are leaders in the front lines of an organization that value population health but they never become managers able to influence the direction of the organization, there will be no change. This has implications for systems of reward and recognition in public health organizations. There is an urgency that underscores responses in the survey for new approaches within the health system that moves away from a culture of autonomy toward a culture of responsibility that values and respects inter-professional teams, rather than individual practice and accomplishments. Rewarding trans-disciplinary and community engaged work, as well as traditional outputs of public health, needs to be considered for change to occur in public health over the short and long term.

There was the notion expressed by some respondents that “organizations can show leadership”. We disagree in part; leadership is demonstrated by people. It is the effort of many people that drives an organization to execute cutting-edge practice and policy interventions; practice and policy leaders within an organization, evidence-informed senior administration, and champions at the helm give voice to innovative positions that allow organizations to move forward and be hailed as “leaders”. Therefore when we identify a leading organization in terms of public health transformation, we must look below the representatives who are likely top managers. Organizations can, by promoting and voicing leadership in public health transformation, impact the field and the general public by changing discourses.

Barriers to leadership were identified at the individual, organizational, community and system levels. Many of these barriers influenced the perception of personal barriers to leadership. For example, do front line professionals feel they are limited by systems, structures and training from exercising leadership? Educating people about leadership will not necessarily foster the reduction of inequity given the current structures; the structures that limit action on social justice and equity need to be changed. An organizational barrier cited by respondents related to the role of unions in the public health sector, and the common belief promulgated by union representatives that leadership is a management responsibility and that when others exercise leadership, they are “performing management duties for less pay.” This position poses a dilemma for professionals at the front line since it limits job satisfaction and the ability to develop skills and competencies from the novice to advanced level within current job structures.

7. CONCLUSIONS

With regard to the number of comments suggesting the use of different words, it is evident, not only from the survey but also from the scoping literature review, that there is a great deal of confusion about what the term leadership denotes when used in public health. Nevertheless, the literature review clearly defined leadership and management as separate processes, with different knowledge bases and competencies. Management is operational administration held in the authority structures within an organization. Managers are trained, either through education or on the job, to direct, administer and supervise people and programs. They plan, organize, delegate, coordinate, and budget the operations of an organization. Some managers will exhibit leadership qualities, of course, because leadership is exhibited throughout an organization. There are opinion leaders, informal leaders, and charismatic leaders at all levels of the organization that motivate and inspire people beyond carrying out the assigned tasks of the work they do. Leaders need development; they are not “born”. Consequently, we should consider levels of leadership – beginners; intermediate and advanced – with concomitant competencies that develop with time, experience and training.

It is difficult to imagine a leader with all the knowledge, skills and attributes identified in the survey as most important. If we contemplate that leadership exists throughout an organization, not only in the managerial group, then can we contemplate these competencies as existing within a team structure that manifests at all levels of an organization? That vision certainly captures the expressed desires from the participants in this survey.

8. Recommendations

A glossary of terms with robust definitions should accompany the competencies for leadership in public health.

All knowledge translation activities must emphasize that the LCPHPC Project is about leadership, not management, and furthermore, that leadership is exhibited by both individuals and teams at all levels throughout an organization.

When drafted, consideration should be given to "levelling" the competencies (e.g., novice, intermediate, advanced).

Recommend to researchers in charge of Phase III of the Environmental Scan that the focus group webinars with nominated leaders in public health explore in more depth the meanings associated with "values and ethics of public health".

Recommend to the consultants directing the Delphi component of the LCPHPC Project that competencies, when drafted, explore the option of levelling them in some fashion to take into account the leadership development process.

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APPENDIX D.

Focus Group Webinars Report

LEADERSHIP COMPETENCIES FOR PUBLIC HEALTH PRACTICE IN CANADA

REPORT OF FOCUS GROUP WEBINARS

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Revised September 2014

Community Health Nurses of Canada
Community Health Nurses of Canada (CHNC) is a national organization for community health registered nurses to advance practice and to improve the health of Canadians. CHNC represents the voices of community health nurses; advances practice excellence; creates opportunities for partnerships across sectors and networks; strengthens community health nursing leadership; advocates for healthy public policy to address social and environmental determinants of health; and promotes a publicly funded, not for profit system for (community) health. CHNC is an associate member of the Canadian Nurses Association (CNA).

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Leadership Competencies for Public Health Practice in Canada

Report of Focus Group Webinars

Table of Contents

1. Introduction 1
2. Background 1
3. Research Questions 2
4. Design and Methods 2
   4.1 Sample 3
   4.2 Procedures 4
   4.3 Data Analysis 4
5. Results 5
   5.1 Participation 5
   5.2 Qualities of Public Health Leaders 7
   5.3 Enablers for Public Health Leadership 9
   5.4 Barriers to Public Health Leadership 11
   5.5 Leadership and Management 15
   5.6 Participant Poll 15
   5.7 Values and Ethics 15
   5.8 Readiness for Change 16
   5.9 Congruence with Phase I and Phase II Data 17
6. Discussion 21
   6.1 Recognition and Support of Top Five 21
   6.2 Conflation of Management and Leadership 23
   6.3 Articulation of Underlying or Implicit Aspects 24
   6.4 Capturing Important Competencies That Did Not Make the Top Five Lists 25
   6.5 Participant Poll 26
   6.6 Values and Ethics 27
   6.7 Readiness for Change 28
7. Conclusions 29
8. Recommendations 30

REFERENCES 31

APPENDIX A. RANKED QUALITIES, BARRIERS AND ENABLERS 34
APPENDIX B. INVITATION DISTRIBUTED TO PUBLIC HEALTH NOMINEES........ 37
APPENDIX C. SUMMARY OF ON-LINE SURVEY RESULTS DISTRIBUTED TO PARTICIPANTS WITH INVITE 38
APPENDIX D. CONSENT FORM 39
APPENDIX E. FOCUS GROUPS QUESTIONS 42
APPENDIX F. LINKS TO PROFESSIONAL CODES OF ETHICS........ 43

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1. INTRODUCTION

The overall aim of the Leadership Competencies for Public Health Practice in Canada (LCPHPC) Project is to build a set of leadership competencies for use by the seven disciplines in public health (dentistry, epidemiology, health promotion, inspection, medicine, nursing, nutrition). The first component was to complete an Environmental Scan that included a literature review (Phase I) (Vollman, Thurston, Meadows, & Strudsholm, 2013); the second was completion of an on-line survey of the membership of each professional disciplinary association (Phase II) (Strudsholm, Vollman, & Thurston, 2014). In this, Phase III of the Environmental Scan, a series of focus group discussions was completed. The next component will be the further development of public health leadership competency statements through a Delphi process.

The results of the on-line survey (Phase II) were ranked lists of descriptors in each category of competency relating to public health leadership as had been outlined through the literature review (Phase I) (see Appendix A). Phase III was intended to further extend and provide an opportunity to discuss the lists of top five results of the on-line survey in a focus group process with people recognised by peers as leaders in public health in Canada. This was done through a series of webinar-based focus group discussions. This report begins with a brief background, and then presents the purpose, design and methods associated with Phase III, followed by the results of the analysis and a discussion in light of the previous phases of the Environmental Scan.

2. BACKGROUND

The Public Health Agency of Canada (PHAC) has, since the SARS outbreak in 2003, supported the development of generic public health competencies followed by the development of discipline-specific competencies for the seven professional groups that are active in public health practice in Canada. All of the discipline-specific competencies have a separate competency labelled "Leadership".[1] Over recent years, questions have surfaced among PHAC staff and others about what leadership means in the public health context, and what detailed competencies are required to further articulate public health leadership across the seven public health disciplines. PHAC funded the Community Health Nurses of Canada (CHNC) and partners to articulate these leadership competencies for public health in Canada.

[1] Public Health Inspection has since incorporated its stated leadership competencies with other competencies because its membership did not find them useful as written. Health Promotion competencies are not finalized.

According to the PHAC:

Leadership is described in many ways. In the field of public health it relates to the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of their community and/or the organization in which they work. It involves inspiring people to craft and achieve a vision and goals. Leaders provide mentoring, coaching and recognition. They encourage empowerment, allowing other leaders to emerge. (PHAC, 2010)

In the LCPHPC Project, competencies are defined as "knowledge, skills and abilities demonstrated by members of an organization or system that are critical to the effective and efficient function of that organization or system" (Joint Task Group on Public Health Human Resources, 2005, p.24).

The report on the on-line survey (Phase II) (Strudsholm, Vollman, & Thurston, 2014) presented a summary and commentary on the top five competencies in each category (qualities, enablers or facilitators, barriers and organizational readiness) identified through the literature review (Phase I) (Vollman, Thurston, Meadows, & Strudsholm, 2013). The research team considered that an important step in articulating national competencies for the seven public health professions was a critical discussion of the components of the five top competencies through consultation with a group of nominated people judged to be leaders in Canadian public health who were not involved in the LCPHPC Project as advisors or other stakeholders. Furthermore, a critical discussion by Canadian public health leaders would be an opportunity to review organizational readiness to adopt new competencies and find out what tools were known or used by leaders.

3. Research Questions

1. To what degree do public health professional leaders agree or disagree with the results of the on-line survey?
2. Should anything be added to leader qualities, enablers or facilitators, and barriers for public health leadership?
3. Are public health professional leaders aware of any organizational readiness tools that will assist the uptake of the competencies in public health agencies in Canada?

4. Design and Methods

A qualitative design was used. We used a webinar-based strategy with a focus group discussion technique to gather data. Focus groups are an effective way to elicit in-depth analysis of a topic as people can stimulate each other to consider different perspectives (Krueger & Casey, 2000). Webinars use computer technology to allow synchronous discussion. We used teleconferencing and a web-based slide show function of the Chorus Call™ teleconferencing software to facilitate data collection.

Six members (four female, two male) of the Expert Advisory Committee (EAC) for the LCPHPC Project participated in a pilot test of the questions and software prior to implementation of the data collection. Data from the pilot tests were not used in the analysis; feedback was used to improve the questions, process, timing and other logistics.

4.1 Sample

We engaged members of the EAC to provide names of public health people whom they considered to be leaders in the field, whether in front line or in management positions. Being recognised leaders in their disciplines, it was likely that they would know people whom they felt stood out as possessing leadership skills. We asked them to nominate people at all levels of public health organizations. The group of nominees is described in Table 1.

From the list of nominees, we purposively selected participants in leadership positions from across Canada, including from remote, rural and northern settings, as well as participants from francophone and Aboriginal groups. Participants were drawn also to reflect the seven public health disciplines engaged in the LCPHPC Project. When approached, all invitees were enthusiastic about the Project; those who replied that they could not participate offered to contribute in ways other than the focus group if the opportunity arose.

Table 1. Profile of public health leader nominees

Level in Organization		**% (n)**
	Front Line	16 (15)
	Middle Management	35 (32)
	Senior Management	25 (23)
	Other*	24 (22)
Public Health Discipline		
	Nursing	32 (29)
	Medicine	24 (22)
	Unspecified**	14 (13)
	Dentistry	9 (8)
	Nutrition	8 (7)
	Inspection	8 (7)
	Epidemiology	4 (4)
	Health Promotion	2 (2)
Location		
	Ontario	46 (42)
	Atlantic Canada	14 (13)
	Manitoba	11 (10)
	Alberta	7 (6)
	British Columbia	7 (6)
	Saskatchewan	7 (6)
	Northern Canada	4 (4)
	Quebec	4 (4)
	International	1 (1)
Sex		
	Female	70 (64)
	Male	30 (28)

* Level within an organization not defined as front line, middle management or senior management (e.g., consultants) or position that may span all levels of an organization (e.g., Medical Officer of Health).
**Nominees did not state their discipline affiliation.

The literature suggests that focus groups are composed ideally of 4 to 8 individuals (Krueger & King, 1998; Morgan & Scannell, 1998). Purposively selected public health leaders were invited to participate through an e-mail invitation (Appendix B) that included: 1) a summary of the on-line survey results in a poster format (Appendix C); 2) two proposed dates and times for the focus group webinar; and 3) a copy of the informed consent form (Appendix D) approved by the Conjoint Health Research Ethics Board, University of Calgary. We over-sampled in hopes of obtaining eight participants per focus group. Follow up reminders were sent to potential participants the day before the scheduled focus group; this message included an identification number to be used by participants to protect their anonymity.

4.2 Procedures

As this is a national project covering all time zones, we tried to schedule the focus groups at the convenience of the majority of those agreeing to participate. We also asked that participants review the provided on-line survey results (Appendix C) prior to participating in the webinar in order to give them an opportunity to reflect on the content prior to the focus group discussion.

Data were collected from focus group participants through their responses to guided questions (Appendix E) developed from the results of the literature review (Phase I) and on-line survey (Phase II). The Chorus Call™ webinar platform used for the focus group discussions had capacity for audio recording, and this was engaged for the teleconferences. The audio recordings were transcribed verbatim by a professional transcriptionist. Each focus group was scheduled for one hour in length and was facilitated by a member of the Academic Partner Team (Meadows). A research associate (Strudsholm) took notes during the webinar. These notes formed part of the data in concert with the related focus group discussion data. Characteristics of each focus group were noted, such as, composition, context and nature (e.g., number of participants expected for each group and number who actually participated; how many females and males were in each; whether groups were single disciplinary or interdisciplinary; logistics of participation (joined on-time or late, had to leave early), dynamics of discussions). Those who declined participation provided explanations such as being on call, being out of the country, having a full schedule, and being on vacation. To encourage participation, invitees who had declined previous dates due to scheduling conflicts were offered alternative dates and times as other focus groups were scheduled.

4.3 Data Analysis

Content analysis was used to analyze the data. Standard methods of qualitative data analysis included identifying codes in each line or sentence, combining codes into categories, and identifying themes in the data (Charmaz, 2002; Crabtree & Miller, 1992; Miller & Crabtree, 1994; Morse & Field, 1995; Thurston, Cove & Meadows, 2008; Down-Wamboldt, 1992; Simons, Lathlean, & Squire, 2008; Weber, 1990).

The focus group transcripts and notes were coded using QSR N-Vivo10™ software. This software supports data management and analysis and provided a platform for multiple team members to access and comment upon the analysis, further supporting interpretation.

Preliminary coding was completed by a research assistant (Henderson) followed by team coding where researchers met to discuss the data, the codes, and examine the transcripts as

appropriate (Thurston, Cove, & Meadows, 2008). In the focus groups, participants were asked to provide suggestions for deletions, additions, and clarifications for the top public health leadership qualities, facilitators or enablers, and barriers as identified in the on-line survey (Phase II, see Appendix B); therefore, these were used as a beginning template for coding. After preliminary coding, analysis proceeded through a written summary of each focus group transcript highlighting issues raised by focus group participants. At this stage discussions were held with the Academic Partner Team. The analysis then focused on a comparison of themes identified in each focus group to explore the similarities and differences among groups with respect to suggestions made and relevance of other comments. Further team discussions then focused on congruence of themes in Phase III with Phases I and II.

5. Results

5.1 Participation

Recruitment for the focus group discussions proved to be a challenge. In spite of over-sampling for each focus group (12 - 20 invitations sent) and reminders to participants, response rates were low. In every group, there were 'no-shows', even among some who responded affirmatively to the follow-up reminders sent the day before their scheduled focus group. A total of five focus groups were held between May 6 and May 28, 2014. For the first two focus groups, participants were sampled from nominees identified within specific public health disciplines (nursing and medicine). As recruitment continued for subsequent focus groups it became apparent that targeting individual disciplines was unlikely to result in the desired variety and number of participants. Invitees for focus groups three, four and five, therefore, were chosen from a mix of public health disciplines. In order to maximize participation and gather data from as many nominees as possible, the fifth focus group invitees included all nominees on the roster who had not received earlier invitations, those who had been unable to schedule prior focus groups, and those that had agreed to participate but had not participated in their assigned focus group. A total of 27 people participated in the five focus groups from a nominee list of 92 (participation rate, 29.3%) (Table 2).

Representatives from all disciplines in public health participated in the focus groups in reasonable proportion with the numbers nominated (Figure 1). The same is true for participation from leaders at various levels of organizations (Figure 2).

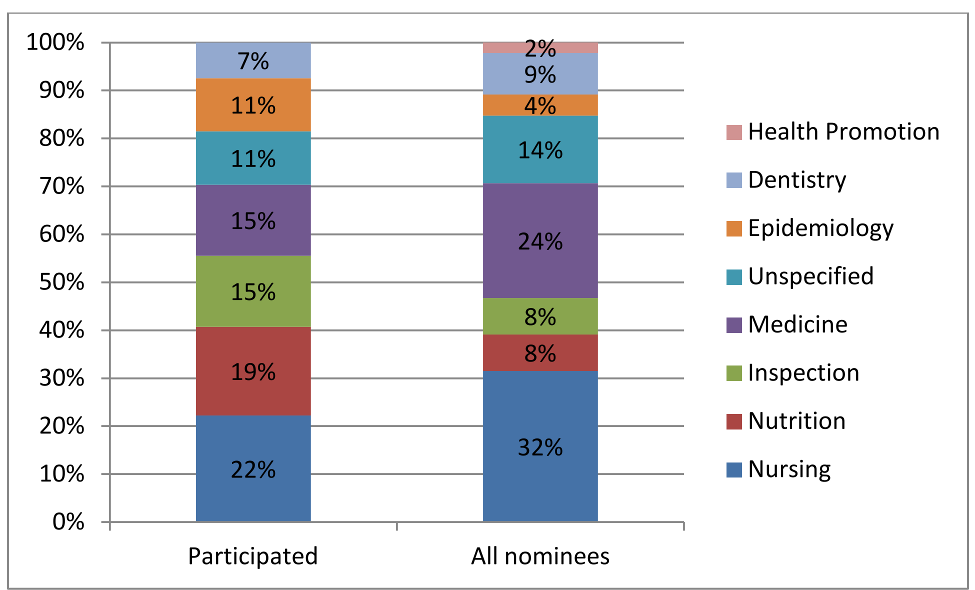

Figure 1. Distribution of public health discipline in focus groups compared to nominees

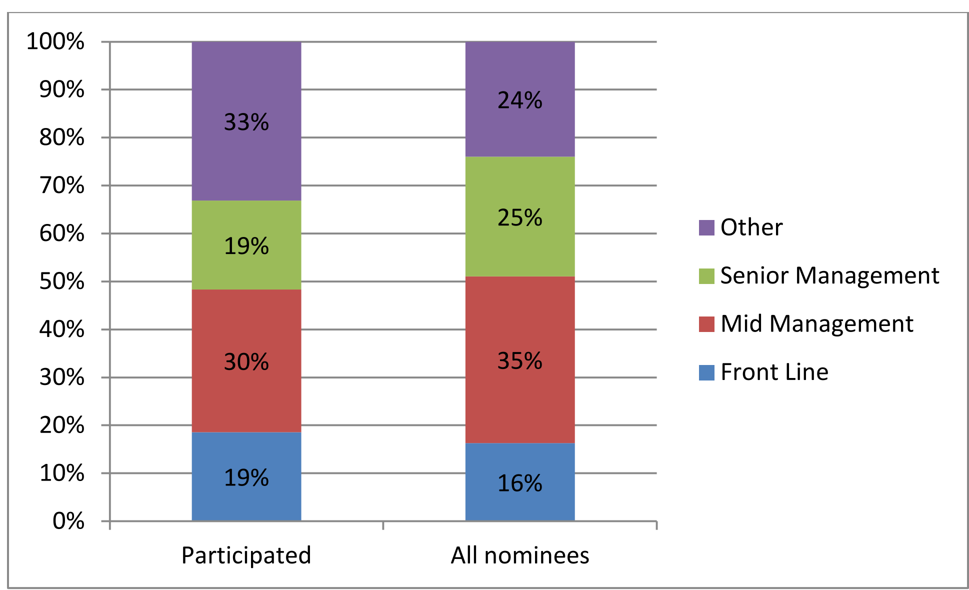

Figure 2. Distribution of level in organization in focus groups compared to nominees

Table 2. Description of focus group composition

Focus Group Number	Participants (n)	Public Health Discipline (n)	Level in Organization (n)	Female (n): Male (n)
FG1	3	Nursing (3)	Mid Management (1) Other (2)	3:0
FG2	3	Medicine (3)	Senior Management (1) Other (2)	1:2
FG3	5	Dentistry (1) Nutrition (3) Epidemiology (1)	Front line (2) Mid Management (2) Other (1)	3:2
FG4	10	Dentistry (1) Nutrition (2) Epidemiology (1) Inspection (3) Unspecified (3)	Front line (2) Mid Management (2) Senior Management (3) Other (3)	7:3
FG5	6	Epidemiology (1) Inspection (1) Nursing (3) Medicine (1)	Front line (1) Mid Management (3) Senior Management (1) Other (1)	5:1
Totals	27			19:8

5.2 Qualities of Public Health Leaders

Leadership qualities included the top five in each of knowledge, skills and behaviours as reported from the on-line survey (Phase II). These qualities are listed in column 1 of Table 3. Notably, participants felt more explicit recognition was necessary to accurately communicate the qualities of public health leaders. Their suggestions are reflected in columns 2 and 3.

The knowledge areas were generally agreed upon by focus group participants and no points were deemed superfluous. It was suggested that personal knowledge areas such as "self-awareness" and "emotional intelligence" should be added so as to more holistically describe knowledge areas of public health leaders. This was emphasized again when positive behaviours were discussed and the practice of ongoing self-reflection was added. It was also suggested that knowledge or understanding of "position within larger health and social system" was not explicit enough in the provided list of knowledge areas.

The skills of public health leaders as presented were also generally agreed with, and there were no suggestions to delete points from the list. Deemed missing from the list were the following points: skill or "savvy" navigating organization and political systems; "change management skills and ability to influence and support cultural change" (e.g., the skill to foster a cultural shift towards more evidence-informed decision making), and the ability to "share vision" as described in the PHAC definition of leadership. It was also suggested that language previously used such as "evidence-based" be changed to "evidence-informed" in order to better reflect language used in public health practice and research today.

Table 3: Comparison of original qualities to suggestions from focus groups

Top Five identified in on-line survey	Suggested points from focus groups	
	Additions	Clarifications
Knowledge Areas of Public Health Leaders		
Population and public health Determinants of health Values and ethics Health demographics and outcomes Inequality, inequity and social justice	Self-awareness Emotional intelligence* Understanding of position within larger health and social system	*none*
Skills of Public Health Leaders		
Communicates clearly and transparently Supports, empowers, builds capacity Has systems and critical thinking skills Builds consensus, mobilizes, has negotiation & mediation skills Uses evidence-based decision-making	Has organizational and political savvy Able to manage change Supports cultural change (i.e., environments that support evidence-informed decision making) Shares vision (named in the PHAC definition of leadership)	Makes evidence-informed decisions
Positive Behaviours of Public Health Leaders		
Serves as a catalyst, builds partnerships, coalitions and capacity, and shares leadership Is accountable Demonstrates drive, motivation, forward thinking Engenders rapport and trust Models and mentors	Practices ongoing self-reflection Takes risks Is passionate Is confident, assertive	Demonstrates perseverance Acts as catalyst and develops leadership qualities *in situ* Builds relationship, builds confidence in others

*Although no definition was provided by participants, "Emotional Intelligence," is defined as, "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. X).

Participants were able to provide examples of their requested additions to leadership skills. With regard to political and organizational savvy, the common frustration of seeing public health goals stymied by jurisdictional confusion regarding public health's role was described. Having the skills and organizational savvy to navigate organizational and political systems of control were felt to be necessary so as to circumvent or rise above barriers the participants too often encountered in their work; for example:

> *"...as the issues [about obesity] got closer to clarification of the leadership role of public health professionals, there was somewhat... [of a] collision or conflict with government policies around, for example, enforcement or limitations around advertising and recommendations around nutritional profiling of products."*

There was some debate over the term "evidence-based" decision making with some commenting that a more appropriate term was

"evidence-informed". Evidence alone was not deemed enough to lead. It was noted also that evidence comes from many sources, and may not be documented but demonstrated in practices, experiences and testimonials.

> *"... whether you make your decisions based on evidence or not, if you can't communicate that decision, you're going to fail with that evidence one way or another, so [communication] in my mind really is top, at the forefront and centre in terms of being a good leader."*

An insight that expanded on using evidence-informed decision making spoke to the skill of influencing positive cultural changes within one's organization:

> *"... It's not only using evidence-based decision making but rather creating an environment that supports knowledge development and integrating that new knowledge into programming."*

Participants also said that leaders with vision may not be able to make decisions based on documented evidence as their foresight may be a precursor to rigorous evidence. The following again illustrates the importance of critical thinking skills and clarity in communication:

> *"I think the beauty of someone who's a forward visionary is they can change the political structure or they can change the organizational structure by their own vision and be a catalyst."*

Discussion of positive behaviours of public health leaders indicated agreement with the behaviours listed, and no desire to delete anything from the list. It was suggested that missing from the list was that public health leaders "practice ongoing self-reflection", "take risks", "are confident and assertive", and are "passionate about public health". A more explicit description of public health leaders demonstrating perseverance was recommended. Participants also felt more explicit recognition of how public health leaders act as catalysts and develop leadership qualities in themselves and others was necessary. Leaders need to continuously develop their leadership skills and build relationships at all levels:

> *"I think building with whoever you're trying to lead. If you think you're a leader, then you need to build relationships with peers, subordinates, whoever is in your group as a public health leader."*

Elaboration on capacity building discussed how leaders can build others' confidence, and overall a need to expand on the issue of leadership development. Leadership development is not only about developing one's personal leadership capacities, but also about investing in others' leadership development. This may involve listening and valuing colleagues' ideas, sharing leadership, giving credit (i.e., recognition of colleagues' work as leadership work):

> *"It's more of an empowerment piece; they facilitate an environment that supports people that are not in formal leadership positions."*

5.3 Enablers for Public Health Leadership

Enablers for public health leadership were identified in the on-line survey as personal (i.e., held personally by the leader her or himself) and external (i.e., existing within the organization or even at a higher level). These are listed in column 1 of Table 4 and the participants' suggested additions and clarifications are in columns 2 and 3.

When reviewing personal enablers for public health leadership, no points were recommended for deletion. There was the suggested addition of "are able to identify and seize opportunities".

Table 4: Comparison of original enablers to suggestions from focus groups

Top Five identified in on-line survey	**Suggested points from focus groups**	
	Additions	Clarifications
Personal Enablers to Public Health Leadership		
Are empowering; enable others by providing strong, unwavering support Are champions for public health principles, actions and interventions Are responsive and accessible Are able to engender trust Have credibility, are opinion leaders	Are able to identify and seize opportunities and take risks	Difference between having credibility and being an opinion leader
External Enablers to Public Health Leadership		
Organizations that value leadership at all levels and acknowledge, recognize, and take advantage of its formal and informal leaders Organizations that foster trust through ongoing and transparent communication Sustainable funding at system and community levels to maintain community engagement and population health programs Mentorship and succession planning; professional development and networking support Organizational empowerment of leadership vision; strategic and tactical support for the vision (e.g., built-in support for vision in organizational planning and performance indicators)	Focus on social justice issues relating to vulnerable populations	Clear role for public health as it relates to accountability, advocacy and political influence

In an example offered regarding fracking[2] versus government support for oil and gas development, it was demonstrated that an essential personal enabler is a public health leader's ability to identify and seize opportunities:

> *"[A] leader has to first recognize and then take advantage of an opening, where to work effectively within a policy environment so, … if suddenly there were a politician that said something about a topic, perhaps a public health leader could piggyback onto that and that would be empowering but it is finding, taking advantage of opportunities. A leader has to take advantage of opportunities so you can be empowering, be a champion, be responsive and accessible ... to work effectively within a policy environment."*

Participants pointed out that that sometimes opportunities present themselves. However, the challenge remains to seize that opportunity, which may involve an ability to improvise and take risks.

> *"[An opportunity] comes up that you can jump to step three and you run into somebody, you meet that person and this is the chance to do it or someone invites you to do a little talk and now is the time to do that even though you're not quite ready, you have to take advantage of an opportunity when it arises."*

[2] Fracking refers to a method of extracting oil from the ground called hydraulic fracturing.

The grouping of the items "having credibility" and "being an opinion leader" was questioned. Participants suggested that public health leaders must have credibility and must be opinion leaders, and said these are not the same.

The list of external enablers to public health leaders was generally accepted. With respect to the presented external enabler "strategic and tactical support for the vision", participants noted that there needs to be clarity regarding accountability in the role of public health leaders. Among leaders, the responsibility for expressing public health-informed opinions and giving advice regarding public health issues can be enabled by greater clarity about the limits or extent of that role. Public health leaders, for example, cannot directly change public policy as well an elected representative of government is able to do, but may need to be very vocal about an issue that affects population health and advocate for policy change. This focus group dialogue highlighted the recognition that the final decisions (i.e., policy decisions and the shape and type of change, if any, that are adopted) may lie at a system level other than that of a public health leader.

There was a call also by focus group participants for more clear communication about the role of public health to the general public and transparency about the responsibilities of public health leaders as opposed to the function of politicians and bureaucrats in health policy-making. It was suggested that it would enable leaders in public health if it were communicated across Canadian society that the role of public health has evolved from a focus on communicable disease prevention to a focus on reducing population health inequities, especially as they relate to chronic diseases. Essentially the public messaging should communicate a change from an emphasis on early detection and treatment of disease to an emphasis on primary prevention and the "causes of the causes" of disease.

Overall, when reflecting on personal and external enablers, it was suggested that there is a need for examples to clarify differences between them. There was some resistance to separation of personal and external enablers given the interplay of political structure, public health agenda, and individual ability.

5.4 Barriers to Public Health Leadership

In regard to public health, barriers (or obstacles) are those issues or factors that inhibit action or access to the resources needed to lead in addressing inequities. Barriers may be non-material such as a circumstance (personal, organizational, system) or a legal stance that limits or prevents communication and progress or keeps people apart. Focus groups discussions around the summary lists (qualities, enablers, barriers) illustrated that many points are not mutually exclusive. The overlap of leadership qualities in the organizing framework was evident as the discussion turned to personal barriers to public health leadership relating to gender, political role and power; organizational barriers, such as competition among clinical care and the public health mandate and a general lack of resourcing of preventative actions; and macro-level barriers that create the low visibility of public health (Table 5).

The review of the personal barriers to public health as ranked in the on-line survey resulted in a general sense of agreement by the focus group participants. No items were identified to be removed; however, a suggestion of "gender" as a personal barrier was proposed.

Table 5. Comparison of original barriers to suggestions from focus groups

Top Five identified in on-line survey	Suggested points from focus groups	
	Additions	Clarifications
Personal Barriers to Public Health Leadership		
Colleagues and team members who are overloaded, overwhelmed, unresponsive, self-interested, passive Organizational context and setting; lack of trust in the organization Lack of political power; lack of political skills to influence policy Lack of mentoring; lack of education or training; limited opportunities for continuing education Underutilization of evidence to inform decision making both in strategy and developing performance indicators	Gender, ethnicity, age	Influence vs. power
Organizational Barriers to Public Health Leadership		
Competition between clinical care and public health mandate Absent culture of improvement; lack of organizational support for evidence-based practice and barriers to evidence uptake No dedicated time for leadership (including time for training and health promotion work) Unclear mission; misalignment of goals, objectives, and incentives	Change management processes, and succession planning	Absent culture of improvement and change Evidence-informed decision making vs. evidence-based Low visibility of public health Lack of common understanding of the role and importance of public health and public health leadership
Macro-level Barriers to Public Health leadership		
The public health sector is a small part of the larger health care system; with competition between curative and preventative activities Outcomes of diminished funding; challenges for adequate funding of public health infrastructure, including technology Lack of supportive legislation in some areas; legislation and public policy that affect population health outcomes Sustainability of programs and efforts in the public health sector Low visibility of public health practitioners		Distinction of enablers vs. barriers is unclear Barriers and enablers are interchangeable (i.e., two sides of same coin)

Gendered behaviour in the workforce was explored as a personal barrier to leadership in public health. A recent CBC radio show (Sturino, 2014) was cited as a source of how gender affects leadership:

> *"It was very interesting saying that for women, we usually wait till we have at least 100 percent of the skills needed before we even consider applying for a leadership job. Whereas men maybe have 60 percent and they figure they'll just learn the rest when they get into the position. I think that sort of blends into building confidence in us as being able to take on a leadership role."*

Additional discussion suggested that not only gender, but also factors such as ethnicity and age are barriers to leadership:

> *"It could be an ethnic culture as well. Some ethnic groups versus other ethnic groups or some professions versus other professions. Maybe use cultural differences including gender. ...Even with age there are differences, right? ...The older I get, the more willing I am to take some risks for some reason.* (Chuckle)*"*

A suggested clarification to personal barriers was the distinction between political power and influence. Essentially, as public health professionals, participants noted public health leaders may have political influence, but political power was reserved for publicly elected officials. As an example, they described the recurring tension about the guiding role of public health leaders in public policy compared to the authority of politicians and political organizations that hold final decision making power. Essentially, public health leaders often work side by side with those with political power but do not have it themselves.

When discussing organizational barriers to public health leadership, participants expressed agreement with the points presented. Including change management skill as well as succession planning under leadership development was suggested. As previously suggested, language previously used such as "evidence-based" was encouraged to be changed to "evidence-informed" in order to better reflect language used in public health practice and research today. Participants suggested also that, in addition to an organizational culture of improvement, more explicit mention of a "culture of change" was needed. A public health unit can be fully engaged in improving the outcomes of current activities, but have little appetite for the large scale change that a focus on the determinants of health, social justice and health equity would entail.

Discussion about organizational barriers was dominated by the matter of competition between clinical care systems and the public health system. Several consequences of competing mandates were presented by participants, including: 1) disproportionate funding allocations to acute care; 2) different organizational frameworks and hierarchies; 3) limits on the public health scope of practice; and 4) lack of knowledge about each other's roles and responsibilities. Participants noted that is it difficult for those in public health to compete for funding – sometimes for something as minimal as a database of cases being seen – against critical and acute care where "you can demonstrate disease all the time". It was suggested that there is not only competition between the public health and acute care sectors, but also a "low visibility of public health" compared to media and public focus on diseases. A focus on critical care and "just in time" medicine rather than an upstream focus on prevention precludes any visionary public health leadership role towards improved population health.

It was noted also that the inherent value of public health is at best not understood, and is often devalued in an environment where curative and acute care are prioritized. The obvious limits in power within health system hierarchies can lead to frustration of public health practitioners' efforts to play a leading role in addressing health inequities. Furthermore, the relationship between patients and the acute care system is very different from what is required within a public health framework that addresses inequities. It was said that public health needs a shift in leadership from "power over, to power with, and power among people". One group spent some time discussing how public health leaders are boxed in by their scope of practice and public health mandated roles that, in the light of few resources to do anything else, inhibited realization of "good ideas", or pursuit of "visionary leadership".

The cultural divide within professions in Canada generally and public health in particular is related to scope of practice discourses but also lack of interdisciplinarity. Some participants spoke of professional colleagues who did not understand the role of their discipline as a public health practitioner, which created a hostile working environment. These comments are telling:

> *"... among our own ranks despite going through medical school or nursing school or whatever, I hear all the time 'the public health nurses aren't doing real nursing, all they're doing is vaccine, and looking after well babies'."*

Nurses were not the sole focus of criticism:

> *"They [public health physicians] are not doing the real hard stuff in the same way. A public health physician is just an administrator."*

Participants attributed colleagues' lack of understanding of their roles and work to differences between a biomedical lens and that of a public health lens. While there was recognition that health systems were evolving from a disease management and risk factor approach to a determinants of health perspective, the evolution was described as happening at "glacial speed". When combined, these circumstances contribute to public health leaders' limited power to enforce mandated recommendations for public health practice.

An example of a system in which the clinical and public health conflicts have been partially addressed was offered:

> *"In the UK public health physicians have accountability for rational delivery of acute health care services. They have the skill sets to do that. We don't do that in Canada and so we don't have discussions about or enough discussions about misadventure in the acute health care system being a public health problem."*

Macro-level barriers were agreed upon by the focus group participants, and no points were identified to be deleted. Participants reported that "lack of supportive legislation" for a public health mandate to address health inequities creates a situation wherein public health policy is influenced more by political ideology rather than a desired focus on marginalized and vulnerable populations that experience inequalities in health status compared to the majority of Canadians. The presence of a public mandate and supportive legislation could serve as protection for front line public health practitioners who speak out. An example was provided about medical officers of health who spoke out against Big Tobacco early in the anti-tobacco campaigns when it wasn't popular to be questioning government revenue sources or employment opportunities. Many, if not most, public health professionals work for government and may not have protection for their jobs if they speak out against policy directions.

5.5 Leadership and Management

Discussions in the focus groups often left our definition of leadership and crossed into an emphasis on management. Sometimes this crossover was subtle; for example, previously we quoted a participant using the phrase "formal leadership position." In fact this probably refers to a management position, rather than a position created with "leader" in the title. Other times, the failure to distinguish leadership and management was more overt. One focus group spent some time describing the opposite of qualities and behaviours of good leaders. They revealed more about having managers who do not adopt a public health mandate or embody leadership qualities, and the mechanisms of control used in current health systems:

> *"[An] incompetent leader, someone that doesn't understand the program, wants to micro-manage, wants to impose their views on the program without really looking at outcomes, considering all the outcomes and the impact on public health. I mean different people have different interpretations of what public health is, so if you have someone in a position of leadership that does not look at public health the way it should be and just, in a way, guides the program into different directions. That is one of the biggest barriers."*

> *"... an incompetent leader would have his or her own agenda first and foremost rather than the benefit of the public health programs and services for the community. They'd be arrogant and entitled and would basically do anything to be that face of public health regardless of who would be better able to address the issue."*

> *"I would agree with all of that. An incompetent leader would lack courage and would not have a clear set of ideas about what's in the best interest of public health and of the public health team that they probably would be of. They would lack understanding of public health but also of what the service delivery arm is."*

5.6 Participant Poll

The overall objective of this part of the LCPHPC Project was to gauge approval and acceptability of the public health leadership descriptions obtained through the on-line survey. Participants were asked to rank their agreement from one to ten (ten being full agreement) with the public health leadership qualities, enablers and barriers identified in Phase II. Participants reported a range of agreement from six to nine out of 10. Early focus group participants identified the presentation framework and language nuances in the points as tempering the robustness of their rankings. There was discussion about whether some of the summary points belonged in the qualities of public health leaders or whether they belonged in enablers and barriers. These types of comments that focused on context and presentation versus content tended to be from participants who reported that they had not had the opportunity (or had not taken it) to reflect on the summaries prior to the focus group discussion. Overall, participants agreed that the LCPHPC Project was 'on track' with clarity and their general critique was positive.

5.7 Values and Ethics

Participants were asked to provide their views on values and ethics in public health, topics that had arisen out of the on-line survey. Focus group participants were quick to point out that grouping values and ethics together was not appropriate. They suggested that ethical guidelines exist for all public health professions

to which each practitioner must adhere. However the values that guide practice may be stated quite differently, especially in the case of addressing inequity and vulnerable populations, and may vary across disciplines. For example, it was noted that values specific to public health may not be well known and the codes of ethics informing public health, that largely predate the evolution of public health to an inequities' lens, were written within a biomedical model.

Public health operates for the common good of communities and the public, often at the expense of individual freedoms. An example provided was the measles outbreak in Alberta in late Winter 2014 whereby unvaccinated students were excluded from public places (e.g., school) by public health quarantine regulations under the Public Health Act for a certain number of days if they had been exposed to a person with measles. People in roles of public health leadership need the skills to understand and negotiate the population-individual level conflicts and they are obviously expected to place greater value on the public good (e.g., prevention of spread of measles), even if it may do harm to an individual (e.g., missing school and perhaps falling behind in her or his education).

At the same time discourses, such as accountability for government funding, may be stress-inducing for public health professionals who value equitable access to health for all (e.g., enough money for healthy food, safe housing). Public health staff may be accused of not holding accountability as a value when in fact social justice and accountability are not incompatible. Front-line professionals may be perceived as having a values conflict with their senior managers when senior managers closely control budgets. Participants noted that, in pursing activities with a public health lens in mind (i.e., the perspectives of determinants of health, population health, and upstream interventions) they need to consider the values of their superiors who may not be public health practitioners. Participants noted that "when your manager is from a different profession from you there may be political issues with which you have to deal." Working in the interdisciplinary environment as public health practitioners therefore requires "small 'p' political savvy."

5.8 Readiness for Change

Participants offered strategies to support the uptake of leadership competencies in public health units and educational programs. Some specific examples of tools to measure readiness for change were offered by the focus group participants and these will be collected and incorporated into subsequent parts of the LCPHPC Project.

Monitoring and follow-up was deemed necessary to encourage long-term uptake of competencies. It was suggested that monitoring be publicly disclosed so as to increase awareness of not only the competencies, but also how they are being used and applied. A long term approach was preferred to allow room for new evidence to be shared across organizations, and to keep the evolution of competencies alive within organizations.

The concept of an evolving approach to change was expressed in a desire for a local or in-house application of the competencies. The perception of "local" was expressed as key to garnering support for competency uptake. Creating opportunities for piloting or testing competencies locally was encouraged; collaboration with provincial, not federal, agencies was also preferred to encourage a sense of local ownership. However, caution needs to be exercised in the implementation process so that local interpretations of the national leadership

competencies are consistent with the original intent of the competency statements.

Readiness for change was also discussed in the context of an aging workforce, and of leaders that are already quite busy. Therefore, dovetailing the implementation of leadership competencies with existing work was considered prudent. This suggestion referenced the use of existing language and piggy backing onto existing competency work in public health settings. It was also suggested that framing the competencies as value added to existing programs and initiatives would support readiness for change. For example, the public health leadership competencies could be incorporated into accreditation standards, performance evaluations, identification of leaders within an organization, recruitment, structuring of job descriptions, and curriculum development.

5.9 Congruence with Phase I and Phase II Data

To assess the congruence of the participants' comments about the qualities of public health leaders, as well as the enablers and barriers to leadership, we compared them to the information from the public health leadership competency literature review (Phase I) and original lists of the on-line survey (Phase II). The additions suggested by focus group participants to leadership knowledge, skills and behaviours were personal or individual level qualities: self-awareness, emotional intelligence, practice of ongoing self-reflection; knowledge of place within larger organization; organizational savvy; change management skill; ability to support culture of change and improvement (with regard to uptake of evidence-informed decision making); skill in sharing a vision; demonstration of confidence; willingness to take risks; and a passion for public health. These additions and notes if similar or related points were captured in the top five lists provided to the focus groups or in the lists developed from the literature review are listed in Table 6.

As highlighted in Table 6, the majority of comments from the focus groups are captured in the top five lists. Qualities that were not captured explicitly by either the on-line survey top five or literature review lists were: emotional intelligence (as part of self-awareness, practices ongoing self-reflection), organizational savvy, and willingness to take risks.

Table 6. Qualities of leaders by focus group results, on-line survey results, and literature review

Focus group SUGGESTED ADDITIONS	Captured in top five*	Related point(s) from literature review*
Self-awareness, emotional intelligence, practices ongoing self-reflection	Not explicitly – could be CK3	CB9. Is reflexive and flexible in response to criticism
Knowledge of place within larger organization	Yes – CS3	CK6. Cultural awareness CK7. Knowledge of Social structures (macro-level) CK8. Knowledge of regulatory systems CK10. Knowledge of critical social theory
Organizational savvy	Not explicitly – could be CS3	CS10. Is well-connected and is politically competent
Change management skills	Yes – CS1, CS3, CS4	CB6. Advocates for and guides change EP9. Embrace change
Ability to support culture of change and improvement (with regard to uptake of evidence-informed decision making)	Yes – CS1, CS2, CS3, CS4, CS5	CB6. Advocates for and guides change CB8. Demonstrates an ongoing willingness to learn EP9. Embrace change
Able to share a vision	Yes – CK5, CS1, CS2, CS4, CB1, CB3, CB4, CB5	CS7. Communicates across hierarchy CB10. Promotes involvement EP7. Share a personal vision that is explicit, clear and compelling
Demonstrates confidence	Yes – CB3, CB4	CS8. Envisions and adapts
Willingness to take risks	Not explicitly	EP9. Embrace change
Demonstrates passion for public health	Yes – CK1, CK5, CS2, CB3	
Focus group SUGGESTED CLARIFICATIONS	**Captured in top five***	**Related point(s) from literature review***
Makes evidence-*informed* decisions	Change of discourse CS5	
Is assertive	Yes – CS4, CB1, CB3, CB4	
Demonstrates perseverance	Yes – CB3	
Acts as catalyst and develops leadership qualities *in situ*	Yes – CB5	
Builds relationship (i.e., partnerships)	Yes – CB1	
Builds confidence in others	Yes – CB4, CB5	
* As summarized in Appendix A.		
Legend: CKn = Qualities, Knowledge, Rank out of 10 CSn = Qualities, Skills, Rank out of 10 CBn = Qualities, Behaviours, Rank out of 10 EPn = Enablers, Personal, Rank out of 10		EEn = Enablers, External, Rank out of 10 BPn = Barriers, Personal, Rank out of 10 BOn = Barriers, Organizational, Rank out of 10 BMn = Barriers, Macro, Rank out of 10

The suggested additions and clarifications to enablers of public health leadership are listed in Table 7. Two statements made about enablers that were not explicitly or not captured at all by either the on-line top five or literature review lists were: ability to identify and seize opportunities and take risks; and clear role for public health as it relates to accountability, advocacy and political influence. Both of these statements connect to the discussions about expectations that leaders must be able to *safely* contradict and critique government policy.

Table 7. Enablers of public health leadership by focus group results, on-line survey results, and literature review

Focus group SUGGESTED ADDITIONS	**Captured in top five***	**Related point(s) from literature review***
Are able to identify and seize opportunities and take risks	Not explicitly – EP2	EP9. Embrace change
Focus on social justice issues relating to vulnerable populations	Yes – EP2	EE8. Organizations that embrace the social justice approach and include health equity indicators in its reports
Focus Groups SUGGESTED CLARIFICATIONS	**Captured in top five***	**Related point(s) from literature review***
Difference between having credibility and being an opinion leader	Yes – EP4, EP5	
Clear role for public health as it relates to accountability, advocacy and political influence	No	EE7. Policy commitment throughout an organization EE8. Organizations that embrace the social justice approach and include health equity indicators in its reports EE9. Organizational regulation and policy to support full scope of practice EE10. Receipt of cooperation and collaboration with government agencies
* As summarized in Appendix A.		
Legend: CKn = Qualities, Knowledge, Rank out of 10 CSn = Qualities, Skills, Rank out of 10 CBn = Qualities, Behaviours, Rank out of 10 EPn = Enablers, Personal, Rank out of 10		EEn = Enablers, External, Rank out of 10 BPn = Barriers, Personal, Rank out of 10 BOn = Barriers, Organizational, Rank out of 10 BMn = Barriers, Macro, Rank out of 10

The suggested additions and clarifications to barriers to public health leadership are listed in Table 8. The statements about barriers that were not explicitly captured by either the on-line survey top five or literature review lists were: gender, ethnicity and age.

Table 8. Barriers of public health leadership by focus group results, on-line survey results, and literature review

Focus group SUGGESTED ADDITIONS	Captured in top five*	Related point(s) from literature review*
Gender, ethnicity, age	Not explicitly	BO7. Lack of commitment to the determinants of health
Lack of change management processes	Yes – BP1, BP2, BP3, BP5, BO1, BO2, BO3, BO4, BO5	BO9. Organizational growth and change BP6. Organizational growth and ongoing change
Lack of succession planning	Yes – BM4	BP7. Burnout; turnover BO8. Staffing shortages BM10. Emergence of new public health related professions
Focus Groups SUGGESTED CLARIFICATIONS		
Political influence vs. power	Yes – BP3	
Absent culture of improvement *and change*	Yes – BP5, BO3	
Evidence-*informed* decision making vs. evidence-*based*	Change of discourse	
Low visibility of public health	Yes – BP3, BO2, BM1, BM5	
Lack of common understanding of the role and importance of public health leadership	Yes – BO1, BO5, BM1, BM3	BO6. Lack of understanding of public health and its values among staff BM9. Inconsistent public health messages
* as summarized in Appendix A		
Legend: CKn = Qualities, Knowledge, Rank out of 10 CSn = Qualities, Skills, Rank out of 10 CBn = Qualities, Behaviours, Rank out of 10 EPn = Enablers, Personal, Rank out of 10		EEn = Enablers, External, Rank out of 10 BPn = Barriers, Personal, Rank out of 10 BOn = Barriers, Organizational, Rank out of 10 BMn = Barriers, Macro, Rank out of 10

6. Discussion

This research provided valuable information for the LCPHPC Project even though participation in the focus groups was lower than originally desired. Although the literature suggests that four to eight participants is optimal, having three well-informed participants was found to result in rich discussion and useful data. We have found the same in other projects; participants who are eager to engage do build on each others' statements. A particular benefit of this phase was the fact that we had a large representation of mid- and senior-level managers nominated (60%) and participating (49%) whereas in Phase II where we needed a more varied sample, 42% of the respondents were front-line workers and 25% were in middle or senior management. This phase ensured that we heard the views of those in decision-making and advocacy positions on leadership and on possible facilitators and barriers to development of leadership competencies in public health. The utility of the focus groups was realized by the contributions of added dimensions of public health leadership practice in the current Canadian context.

Examining the focus group data, four observations can be made: 1) overall, the top five public health leadership competencies are recognized and supported; 2) managers tend to conflate management skills and leadership competencies; 3) the underlying or implicit aspects of the top five leadership competencies may need to be articulated more clearly; and 4) some of the leadership competencies that did not make the top five lists are still important and may be captured in the underlying aspects of, or indicators for, the top five.

6.1 Recognition and Support of Top Five

While the lists of top five leadership qualities, enablers and barriers were largely upheld, some interesting challenges were identified to be addressed in next steps of the LCPHPC Project. One such challenge is the expressed desire to develop the competencies "locally." The need to get uptake of leadership competencies across the country and in many different locations and contexts suggests that a careful knowledge translation plan needs to be developed as part of the next components of the LCPHPC Project. Caution needs to be exercised in the implementation process so that local interpretations of national leadership competencies have congruence with each other and national development can be observed. The opposite would be a continuation of a patch work of understanding of what public health leadership entails. Nevertheless, a principle of health promotion practice is that the local community sees the benefit in participation in an initiative and can fit the goals and objectives of that initiative to the local context. Participants were expressly stating, "Don't give us a one-size-fits-all plan."

A second clear challenge is the suggestion that gender, ethnicity and age should be stated as barriers to public health leadership. This suggests that the participants see inequities operating in public health systems, the very ones tasked with reducing health inequities. The identification of gender, ethnicity and age as barriers to public health leadership was raised particularly in the focus groups. While issues relating to gender, ethnicity and age were found in the literature review, they were not well elucidated.

Age was raised as a factor in leadership styles, in the need to plan for an aging workforce and in doing succession planning. Gender, ethnicity and age were thought to influence one's approach to career development and acceptability of risk. This may involve risk taking required in the pursuit of formal leadership roles, or risks involved in being a leader within an existing role. Furthermore, the prevailing attitude was that men were more comfortable learning on the job, whereas women prefer to learn before taking on the job. As such, pursuit of leadership opportunities or the developments of mentoring programs are not immune to sexism, racism, ageism, and ableism or to failure to incorporate attention to these inequities.

The comments around gender and leadership referenced a radio show about contemporary pop-culture leadership publications. Thinking and conversations about leadership occur in the social milieu – bookstores, radio programs, conferences. Leadership itself is an ongoing topic of public interest, self-improvement and training, and the literature is popular. If there are leadership courses and training being offered in a locale, that perspective on leadership competencies may conflict with the public health leadership competencies that should focus explicitly on the reduction of health inequities. As more sources join in the leadership conversation, there arises the challenge to address this "noise" and distill an understanding of leadership in public health practice in Canada.

The suggested changes in discourses to be used (e.g., emotional intelligence, evidence-informed) in part reflect the kind of changes that an ongoing effort to build a national framework for public health leadership competencies will face. Of note, emotional intelligence is a popularized concept, and somewhat of a 'buzz term'. We understood emotional intelligence as the ability to discern information about the feelings and emotions of self and others and to use this discernment to guide thinking and action (Salovey & Mayer, 1990).

The focus groups' suggestions to update language from evidence-based to evidence-informed decision making reflects in part the challenge of decision making in public health practice, wherein the pool of evidence may be limited at first glance. Evidence-informed decision making is about making decisions given evidence that comes from a variety of important sources. The National Collaborating Centre for Methods and Tools (NCCMT, 2012) proposes a model that situates public health expertise in a context of evidence from four sources: research; community health issues, local context; community and political preferences and actions; and public health resources. The value of evidence-informed decision making in public health, as opposed to evidence-based, is a broadened knowledge base from which to draw. Inclusion of knowledge of community health issues, local context, community and political preferences and actions, and public health resources provides additional evidence and a more rich and comprehensive understanding with which to inform decision making. The availability and applicability of existing research may not provide adequate evidence or a comprehensive understanding upon which to make an educated decision. Furthermore, the type of evidence given the label of "gold standard" (i.e., the randomized controlled trial (RCT)) simply may not exist or be possible/feasible to conduct, whereas accumulated knowledge provides a justifiable route of action.

6.2 Conflation of Management and Leadership

The nature of pressures and demands raised by focus group participants appears to be akin to pressures of management. In fact, data suggests "management" and "leadership" were often used as synonymous terms and, throughout each of the focus groups, management and leadership roles were not clearly delineated. This confusion of terms suggests that leadership is still regarded as the responsibility of management. However, the skill set required of managers is not necessarily suited to the skill set required of leaders, regardless of their level on an organizational chart. Nor are their roles the same: "The manager's job is to plan, organize and coordinate. The **leader's** job is to inspire and motivate" (Murray, 2010). An interesting juxtaposition of leadership and management within an organization is presented in Table 9.

Despite noted differences between leadership and management, the question remains whether this is a practical reality in public health practice and the organization of the public health workforce. The possibility of distinguishing between leadership and management in practice will be an issue to keep at the forefront as the LCPHPC Project moves forward from the focus groups.

Table 9. Leadership and management comparison chart

	Leadership	**Management**
Definition	The ability of an individual to influence, motivate and enable others to contribute toward the effectiveness and success of the organizations of which they are members	The ability of an individual to direct and control a group of one or more people or entities for the purpose of coordinating and harmonizing that group towards accomplishing a goal
Focus	Leading people	Managing work
Outcomes	Achievements	Results
Approach to tasks	Examine problems and devise new, creative solutions. Using their charisma and commitment, leaders excite, motivate and focus others to solve problems and excel.	Create strategies, policies, and methods to create teams and ideas that combine to operate smoothly. Managers empower people by soliciting their views, values and principles. They believe that this combination reduces inherent risk and generates success.
Role in decision making	Facilitative	Involved
Styles	Transformational, consultative and participative	Dictatorial, authoritative, transactional, autocratic, consultative and democratic
Power through	Charisma and influence	Formal authority and position
Organization	Leaders have followers	Managers have subordinates

Source: http://www.diffen.com/difference/Leadership_vs_Management

6.3 Articulation of Underlying or Implicit Aspects

The need to clearly articulate implicit aspects of the top five public health leadership competencies, enablers and barriers was made evident in the discussions.

The resistance among participants to the organizing framework used to present the material was most prominent when reviewing personal enablers and barriers of public health leaders. The framework presents the context of public health leadership as having enablers and barriers over which an individual has different levels of control and influence. Personal enablers and barriers are presumably something that personal action and choices can impact.

Meso or organizational enablers and barriers are influenced by other people in organization and by social institutions (e.g., gender, ethnicity, science, politics, and systems of power). It follows that macro-level enablers and barriers are defined, redefined, upheld, and propagated by social institutions and processes (i.e., context). The power of an individual to act, or the degree of influence an individual has, varies by the personal, meso and macro-level context. Any reference to "context" or "social context" contains actors with agency who are able to tell us about the associations, rules and norms that form that context (Latour, 2005). Theories of change then tell us how to go about changing the context (Thurston & Potvin, 2003).

Agency, understood as the capacity of individuals to act independently (Garner, 2000), becomes important when trying to address public health leadership development and empowerment because as stated by Marx, human beings make their own history, but not in circumstances of their own choosing (1852, Chapter 1). Awareness of the context of agency determines the appropriate level (personal, meso, macro) of intervention by defining levels and scope of responsibility towards leadership development. For example, at the personal level, an individual may have the agency to pursue professional development and overcome personal barriers to leadership such as insufficient education or skills to use evidence-informed decision making. However, the degrees of agency these individual actors have are determined by context. Again, at the individual level this may refer to availability of resources such as time and money dictated by personal family, work and financial circumstances. So a comprehensive understanding of an actor's agency within a variety of social contexts highlights the mechanisms that enable and present barriers to action. Keeping agency at the forefront may help to alleviate inappropriate allocation of responsibility for outcomes (i.e., blaming the individual) and serve to recognize and enlist all players involved in order to enact effective support of public health leadership development. The need for this clarification was highlighted in focus group participants' expressed difficulty with respect to the concepts of enablers and barriers; at times they thought that a barrier could be an enabler and vice versa. However, we know from health promotion practice that an enabler may be the outcome of a change intervention aimed at a barrier. Participants also questioned the categorization of qualities as personal, and had trouble accepting the idea that qualities held by an individual could be differentiated from the environment in which they worked and guided others.

6.4 Capturing Important Competencies That Did Not Make the Top Five Lists

The on-line survey and focus group discussions added perspectives to the literature review that prompted the need for further examination. In light of this, some literature is reiterated, and current work (undertaken since September 2013 and thus not captured in the literature review (Phase I)) is investigated.

The Canadian College of Health Leaders (CCHL) undertook a project to examine and review the literature on leadership. They state: "The LEADS Framework represents the key skills, abilities, and knowledge required to lead at all levels of an organization. It aligns and consolidates the competency frameworks and leadership strategies that are found in Canada's health sector and other progressive organizations." (CCHL, 2013). LEADS consists of five capabilities for leaders: lead self; engage others; achieve results; develop coalitions; and systems transformation. Through the identification of competency domains the LEADS framework encapsulates a broad range of capabilities that leaders bring with them to their position or can/are expected to develop through "conscious and intentional effort" (CCHL, 2010, p.1).

Czabanowska et al. (2011), under the Leaders for European Public Health project, developed a competency framework after an extensive literature review and survey for feedback on the framework. The resulting competencies are organized according to systems thinking, political leadership, inspiring and motivating others, building and leading interdisciplinary teams, leadership and effective communication, leading change, emotional intelligence and leadership in teams, and ethics and professionalism. This competency framework contains within it categories that are very similar to those identified in the LCPHPC Project. The advantage of the organization by Czabanowska et al. is that it avoids the sub-categories such as enablers and barriers that were often cited by our focus group participants as problematic.

The National Public Health Leadership Development Network (2005) published a framework for public health leadership competencies. This framework was organized through core transformational competencies (visionary leadership, sense of mission, effective change agent), political competencies (political processes, negotiation and mediation, ethics and power, marketing and education), trans-organizational competencies (organizational capacity and dynamics, trans-organizational capacity and collaboration, social forecasting and marketing), team building competencies (team structures and systems, team development, facilitation and mediation, effective role model). This framework is very detailed and again features many of the categories that contribute to the formulation of national Canadian public health leadership competencies.

A project was undertaken in Saskatchewan to examine leadership and health system design needs in a shared services initiative (SSI) (Marchildon et al., 2013). As part of that project leadership competencies were explored. Four leadership challenges were identified in the first stage of the project: vision, engagement, personal leadership, and political will. The study found that high-level leaders (senior managers) were not communicating a well-articulated vision to staff. The consequence of that lack of clarity was difficulty for middle managers to communicate goals for change to their front-line staff. The issue of lack of engagement was seen to be dealt with best through clear and multifaceted communication on an ongoing basis (e.g., meetings, check-ins). Marchildon et al. also

reported that “When asked about their own leadership many participants focused on external constraints and many were unable to critically reflect on their personal leadership abilities.”(p. iv). The issue of political will centred on concerns that government might not support recommendations when policy and government support were needed for reform. Other issues that arose as the project progressed were a lack of alignment of change management resources, leadership that was distributed throughout the province rather than centralized (leading to dilution of the vision and engagement), and the challenge of leading change while already committed to other priorities.

The challenges identified in the Saskatchewan project have been articulated in the LCPHPC Project as well, suggesting that issues such as vision and engagement are critical to a change process. In the next components of the LCPHPC Project, the team would benefit from reviewing the work of Marchildon et al. as a tool for insight into change in a complex, multi-site and interdisciplinary environment. The term ‘engagement’ also needs to be clearly defined for project purposes so that those leading and those following have a shared understanding of their roles.

In a scoping meta-review of the consumer and community engagement (CCE), Sarrami-Foroushani et al. (2014) identified nine phrases and concepts covered by the umbrella term ‘engagement’. They note that ”By identifying the specific concepts related to CCE, this study can assist more focused evaluations of the current evidence, and more importantly, enhances the production of new evidence” (p.8). In the case of public health, those practising it at all levels throughout their organizations as well as those in governing institutions need to clearly communicate a rationale for change, the processes that will be used to support change, and the role that each and every practitioner plays in facilitating successful implementation of that change.

While it will be important to consult these other public health leadership frameworks, the key to the success of the LCPHPC Project is to formulate a “made in Canada” public health leadership competency framework.

6.5 Participant Poll

The passing marks awarded to the top five summary of the on-line survey as provided to the participants (Appendix C) suggests a general agreement between focus group participants and on-line survey participants. Overall, the participants in the focus groups were asking for clarity as opposed to adding items to the lists derived from the on-line survey of public health professionals across Canada. Participants highlighted leadership qualities, enablers and barriers that required greater development, more explicit description, or reorganization so as to capture more accurately the elements of public health leadership in Canada. Identification of a lack of common understanding of the scope of public health, and the importance of public health leadership was voiced. The focus groups also brought to the fore examples of the day to day (real-life) pressures, obligations, expectations, and needs of Canada’s public health leaders. These insights were a valuable outcome of the focus groups, because it situated the exploration of public health leadership in the context of professional public health practice (as opposed to the literature review context from which the on-line survey was developed).

6.6 Values and Ethics

Participants were asked to provide their views on values and ethics in public health, issues that arose from the on-line survey. Participants noted that ethics and values could not be meaningfully discussed as one concept, as both values and ethics were inherently complex. Participants argued strongly for recognition that values and ethics are two separate constructs and need to be acknowledged as such.

There are bodies of literature on both concepts with on-going debates about the definitions and the application of values and ethics. Callahan and Jennings (2002) noted that there are ethics *of* public health and ethics *in* public health, stating: "If ethics is understood to be a search for the values, virtues, and principles necessary for people to live together in peace, mutual respect, and justice, then there are few issues in public health that do not admit of an ethical perspective." (p. 170). Callahan and Jennings then identify four broad categories of public health issues for ethical consideration: health promotion and disease prevention, risk reduction, epidemiological and other forms of public health research, and structural and socioeconomic disparities in health status.

According to the Public Health Agency of Canada (PHAC) values have five aspects: respect for democracy, respect for people, integrity, stewardship, and excellence (PHAC, 2014). A white paper published through the Richard Ivey School of Business (Snowdon et al., 2012) examining values in the context of health and health care defines values as a quality based on a person's principles or standards, one's judgment about what is valuable and important in life, and what a person deems important.

Values are influenced by many factors. Individuals' values are developed over time and through experience and education. Institutions may have values influenced by their business model, vision and other factors. In their discussion, Snowdon et al. (2012) illustrate the tension between peoples' values regarding health care and the values brought to health care by professionals with their focus on how the health care system provides their livelihood, how the system enables them to care for patients, and the efficiency with which they are able to practice (p. 10). This tension was also evident in the focus group discussions of values in the context of public health leadership.

Values were seen as underlying the philosophy with which people practice public health. Attention to the health needs of vulnerable populations, social justice and equity, recognition of the range of determinants of health, and decisions made for the common rather than individual good were some of the examples of values that, according to focus group participants, characterized public health. The tension between value sets was made clear as participants discussed how public health values stood in contrast to the fiscal and fiduciary values of politicians and governments, and diverged from those in the acute sector of the health care system that is focused on cure and profit but fails to meet the needs of vulnerable populations. Participants' frustration with the lack of understanding and hostility from professional colleagues can also be connected to differences in values in the day to day practice of their professions.

In the documents detailing the codes of ethics for various disciplines, the art and science of their professions is formally acknowledged (see Appendix F for links to disciplinary codes of ethics). Professional ethics for those in public health are often multifaceted. Some criteria to which various professions involved in public health are held are noted in Table 10.

These professional ethical guidelines are then layered with those of public health (Greenwood & Edwards, 2009). The discussions by the focus group participants illustrated the complex environment in which they practice their professions. Moral imperatives are present from both their individual professions as well as the field of public health.

Table 10. Sample criteria of ethics for public health professions

Public health profession	Excerpts from professional codes of ethics
Dentistry	Abide by the principles of: patient autonomy and informed choice; nonmaleficence; ultimate goal of treatment shall be to optimize oral function and/or appearance for the patient; truthfulness and forthrightness in all professional matters.
Inspection	Uphold the standards of the profession; continually search for truths and keep up to date with public health developments; guard the public's interest honestly and wisely; agree that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, or economic or social condition.
Medicine	Practise the profession of medicine in a manner that treats the patient with dignity and as a person worthy of respect; consider the well-being of society in matters affecting health; practise the art and science of medicine competently, with integrity and without impairment.
Nursing	Provide safe, compassionate competent and ethical care; preserve dignity; maintain privacy and confidentiality.
Nutrition	Work co-operatively with colleagues in other professions; protect members of society against the unethical or incompetent behaviour of colleagues or other fellow health professionals.

For sources, refer to links to professional codes of ethics in Appendix F.

6.7 Readiness for Change

The question on readiness for change posed to focus group participants was intended to provide an opportunity for the research team to gather information about tools for measuring readiness for change. It was also a chance to have participants gauge their own organizations' openness to change. Few measurement instruments for readiness for change were identified; most of the discussion focused on how change might be facilitated or supported as competencies were introduced.

Some method of evaluation of uptake was seen as integral to implementing the competencies. Although PHAC is a federal organization, participants advised against a pan-Canadian level implementation, emphasizing the importance of local relevance and uptake of competencies. It is also notable that by virtue of the Constitution Act 1982 (Department of Justice Canada, 2013) health is under provincial jurisdiction, not federal, and ongoing provincial/territorial tension around policy implementation exists. Further, in most provinces, provincial jurisdiction is delegated to municipalities or health authorities in matters such as those that relate to the mobilization of local human resources.

7. CONCLUSIONS

Given the feedback from the focus groups, there is support for a contextual perspective of public health leadership qualities, barriers and enablers. The focus group participants, who had been nominated as public health leaders, shared how their work was influenced and informed by myriad factors including scope of practice, personal traits, social climate, and political arenas. As such, taking action, or making decisions was informed by their context of practice. In essence, public health expertise and practice can be understood as efforts to uphold the foundational principles and values of public health – health equity and improved health for all communities – given information that comes from a variety of important sources.

Lack of clarity was evident with regard to the organization and categorization of the knowledge, skills, behaviours, enablers, and barriers. This confusion was not necessarily about the content of the statements, but about the organization thereof. Overcoming this impasse becomes important in the development of competency statements, and in the pursuit of a shared understanding and a shared esteem of public health leadership. That said, it is important to realize that the framework was utilized in the Environmental Scan phases as an organizing tool. Overemphasizing the controversy generated by the focus group participants and their questioning of it may distract attention from the substantive focus that is needed as leadership competencies are drafted and tested. Readers are reminded that every discipline has its guiding paradigms – some linear sequential and some iterative, therefore critique needs to be acknowledged but given weight in context of the end goal.

Next steps, in which the descriptors from Phases I through III are developed into competency statements, will require a framework that can bridge descriptions of public health leadership into competency statements of public health practice. The purpose of the consequent competency statements is to support public health leadership practice at all times and at all levels of public health practice in Canada, support public health leadership development, and increase public health influence towards improved health equity and population health outcomes in Canada. To serve this purpose, there is a need to devise a dynamic framework unhampered by the awkward / unaccepted / rigid / static structure used in the Environmental Scan phases.

It is possible to garner a map to guide future framework development from the focus group analysis (Phase III) and Phases I and II of the Environmental Scan. This map could represent issues that the focus group analysis indicated were not captured in the literature review or on-line survey, items that require more explicit explanations, items that deserve to stand alone rather than be grouped, and organizational concerns.

In conclusion, the focus groups allowed public health leaders to describe how they contend with everyday demands that may or may not align with public health mandates, and yet they deliberately choose to uphold the foundational principles and values of public health. The commitment to public health principles and values speaks to the degree of passion for public health among the participants. However, the focus groups illustrated that passion for public health among public health practitioners is not realized as value for public health in other spheres of Canadian society. As Fineberg (2013) noted in his article, *The Disease Prevention Paradox: Celebrated in Principle, Resisted in Practice,* the low visibility of public health outcomes and the financial cost of prevention, among other issues, put preventive medicine (i.e., public health) at a disadvantage when compared to curative medicine. The patient-centred, disease-oriented schema

continue to outweigh population-based, prevention-focused approaches; evidence of short term gains was deemed preferential to long term investments. Public health leaders, while passionate, are left with limited capacity to translate a vision into reality.

8. Recommendations

Based on the results of the five focus groups held with public health leaders in May 2014 the following recommendations are made for the next steps in the Leadership Competencies for Public Health Practice in Canada Project:

- Consideration needs to be given to how competencies are presented. The framework used in Phases II and III was distracting to some participants, especially in the focus group discussions. Are there other ways to organize the competencies for public health leadership practice in Canada or is more explanation of the existing framework needed? We suggest strongly that the team for the Delphi component of the LCPHPC Project consider an alternative framework.
- Participants asked often for practical examples of descriptors upon which they were asked to reflect. Do these summary points need to be broken down more finely so that adjudicators in the Delphi process are considering only one factor at a time? Or are there opportunities to specify indicators for each competency that would more explicitly detail each competency?
- A visual depiction of the relationship among the leadership competencies for public health practice in Canada may be useful.
- Given the suggestions of focus group participants that uptake of leadership competencies may be evaluated within existing processes such as annual reports, job evaluation and so forth, the use of existing language of competency/evaluation work should be considered.
- It is essential to provide definitions and a glossary of terms. Public health professionals are practising in complex environments that are multidisciplinary and often focused on a biomedical model. Clarity through a public health lens respects and acknowledges the dedication of those working in public health.
- The term "engagement" needs to be clearly defined so that those leading and those following have a shared understanding of their roles.

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APPENDIX A.
RANKED QUALITIES, BARRIERS AND ENABLERS

In Phase I, the literature review resulted in the organization of competencies relating to public health leadership in categories/subcategories. In Phase II, the on-line survey resulted in the ranking of the lists of descriptors in each.

Table 1. Qualities of public health leaders

Rank	Knowledge (n*)	Skills (n)	Behaviours (n)
1	Population and public health (537)	Communicates clearly (524)	Serves as a catalyst, builds partnerships (484)
2	Determinants of health (508)	Supports, empowers, builds capacity (506)	Is accountable (425)
3	Values and ethics (441)	Has systems/critical thinking skills (457)	Demonstrates drive, motivation, forward thinking (381)
4	Health demographics and outcomes (352)	Builds consensus (446)	Engenders rapport and trust (359)
5	Inequality, inequity and social justice (337)	Uses evidence-based decision-making (431)	Models and mentors (357)
6	Cultural awareness (272)	Demonstrates innovation and creativity (278)	Advocates for and guides change (332)
7	Social structures (macro-level) (256)	Communicates across hierarchy (206)	Recognizes contributions of others (310)
8	Regulatory systems (247)	Envisions and adapts (194)	Demonstrates an ongoing willingness to learn (269)
9	Technology (198)	Understands the different styles/expectations (120)	Is reflexive and flexible in response to criticism (202)
10	Critical social theory (124)	Is well-connected and is politically competent (114)	Promotes involvement (175)

* n = total votes statement received in on-line survey. Participants were asked to select top five statements from a list of ten. The total votes represent a tally of all votes each statement received.

Table 2. Enablers to public health leadership

Rank	Personal Enablers (n*)	External Enablers (n)
1	Are empowering; enable others by providing strong, unwavering support (442)	Organizations that value leadership at all levels (418)
2	Are champions for PH principles, actions and interventions (410)	Organizations that foster trust through ongoing and transparent communication (388)
3	Are responsive and accessible (367)	Sustainable funding at system and community levels (385)
4	Are able to engender trust (324)	Mentorship and succession planning; professional development and networking support (331)
5	Have credibility, are opinion leaders (309)	Organizational empowerment of leadership vision (328)
6	Share power horizontally; use a democratic decision-making style (300)	Organizations that support innovation, creativity and flexibility (319)
7	Share a personal vision that is explicit, clear and compelling (261)	Policy commitment throughout an organization (265)
8	Promote a healthy workplace culture (237)	Organizations that embrace the social justice approach and include health equity indicators in its reports (199)
9	Embrace change (189)	Organizational regulation and policy to support full scope of practice (161)
10	Are fluent in the language of the multiple professions with whom they interact (129)	Receipt of cooperation and collaboration with government agencies (123)

* n = total votes statement received in on-line survey. Participants were asked to select top five statements from a list of ten. The total votes represent a tally of all votes each statement received.

Table 3. Barriers to public health leadership

Rank	Personal Barriers (n*)	Organizational Barriers (n)	Macro-level Barriers (n)
1	Colleagues and team members who are overloaded, overwhelmed, unresponsive, self-interested, passive (467)	Organizational structures that do not align with professional values and priorities (372)	The public health sector is a small part of the larger health care system; with competition between curative and preventative activities (495)
2	Organizational context and setting; lack of trust (369)	Competition clinical care and public health (358)	Outcomes of diminished funding; challenges for adequate funding of public health infrastructure, including technology (434)
3	Lack of political power; and skills (363)	Absent culture of improvement- (322)	Lack of supportive legislation in some areas; legislation and public policy that affect population health outcomes (369)
4	Lack of mentoring; education or training (359)	No dedicated time for leadership (312)	Sustainability of programs and efforts in the public health sector (349)
5	Underutilization of evidence to inform decisions (311)	Unclear mission; misalignment of goals, objectives, and incentives (288)	Low visibility of public health practitioners (342)
6	Organizational growth and ongoing change (280)	Lack of understanding of public health and its values (273)	Challenges of designated funding to be used at local levels (304)
7	Burnout; turnover (279)	Lack of commitment to the determinants of health (269)	Community engagement that involves partnership and collaboration; local needs that might be in conflict with 'big picture' public health (278)
8	The need to deal with confrontation and opposition (254)	Staffing shortages (269)	Conflicts arising from scope of practice or professional ownership (173)
9	Staff resistance; lack of accountability (185)	Organizational growth and change (263)	Inconsistent public health messages (162)
10	Perception that leadership is an 'add on' (159)	Lack of Information technology (IT) support (184)	Emergence of new public health related professions (46)

* n = total votes statement received in on-line survey. Participants were asked to select top five statements from a list of ten. The total votes represent a tally of all votes each statement received.

Appendix B. Invitation distributed to public health nominees

EXCITING OPPORTUNITY TO CONTRIBUTE THROUGH A FOCUS GROUP ON PUBLIC HEALTH LEADERSHIP COMPETENCIES

Date May 21, 2014

To: Public Health Leader Nominees

From: Lynn M. Meadows, PhD

RE: Leadership Competencies for Public Health Practice in Canada

The Public Health Agency of Canada (PHAC) has funded the Community Health Nurses of Canada with partners from seven public health disciplines (dentistry, epidemiology, health promotion, inspection, medicine, nursing, and nutrition) to design and disseminate leadership competencies for use by the public health professions in Canada. You have been nominated by the Expert Advisory Committee for this project as a leader in public health; as such we would like to invite you to be part of a webinar-based focus group interview on leadership characteristics, enablers/facilitators, barriers and organizational readiness to adopt the competencies developed by this project.

We sincerely hope that you will be interested in participating in this project: if so, please email me at meadows@ucalgary.ca. If you have any questions prior to deciding, please contact me at the same e-mail. As a participant in the project you will need to provide consent before participating in the webinar focus group. The consent form will provide full details of your rights and responsibilities for this research.

The 60 minute teleconference/webinar for your group will be scheduled for either [Date1(day, month, year)] or [Date2 (day, month, year)].The focus group on [Date1] would be scheduled at [Time1 (EDT); and on [Date2] at [Time2 (EDT)]. The final date will be the one chosen by most participants in the group. As participants will be from across the country we will try to choose times that acknowledge time differences. <u>Please reply to the invitation on or before [Date3]</u>.

If you agree to participate we would ask you to please read and reflect upon the summary of results attached in poster form with this e-mail.

Appendix C.

Summary of on-line survey results distributed to participants with invite

Leadership competencies for public health practice in Canada: Results of an online survey

Community Health Nurses of Canada, Canadian Institute of Public Health Inspectors, and Manitoba Public Health Managers Network

Background

The Public Health Agency of Canada (PHAC) has supported the development of generic public health competencies followed by the development of discipline-specific competencies for the seven discipline groups that are active in public health practice in Canada. Questions have surfaced about what leadership in the public health context means, and what detailed competencies are required to further articulate public health leadership.

An online survey was constructed based on the scoping literature review that identified characteristics of successful public health leaders as well as enablers/facilitators and barriers for leadership in public health (Vollman et al., 2013). An important step in preparing national competencies for the seven disciplines is to understand the degree to which these public health professionals agree with the results of the review, and how they priorize these competencies.

Methods

After pilot testing, the survey link to FluidSurveys™ was distributed via email to seven contacts who in turn distributed the survey link via email to the membership of their respective professional association. Reminders were sent three times. The survey was opened November 20th, 2013 and closed January 20th, 2014. There were 821 total responses to the online survey.

Definitions

Challenges or barriers: those issues or factors that inhibit action or access. Barriers may be non-material such as a circumstance (personal, organizational, system) or legal stance that limits or prevents communication, progress or keeps people apart. Think about what obstacles, in your experience, leaders in public health face.

Facilitators or enablers: something that provides knowledge, means or opportunity to activate or make something operational. Thinking about leaders in your organization, association, or elsewhere, consider those factors that allow them to perform and be successful.

Results

Description of respondents

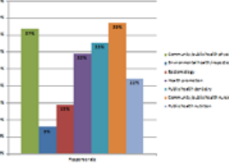

Figure 1. Response rate by public health discipline

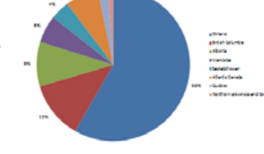

Figure 2. Distribution of survey responses by geography (n=810)

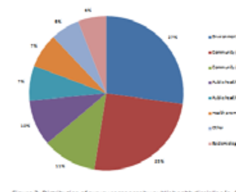

Figure 3. Distribution of survey responses by public health discipline (n=821)

Figure 4. Distribution of survey responses by years of working in public health (n=815).

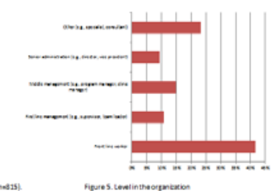

Figure 5. Level in the organization

Characteristics of public health leaders

Top 5 Knowledge Areas

1. Population and public health
2. Determinants of health
3. Values and ethics
4. Health demographics and outcomes
5. Inequality, inequity and social justice

Top 5 Skills

1. Communicates clearly and transparently
2. Supports, empowers, builds capacity
3. Has systems/critical thinking skills
4. Builds consensus, mobilizes, has negotiation/mediation skills
5. Uses evidence-based decision-making

Top 5 Positive Behaviours

1. Serves as a catalyst, builds partnerships, coalitions and capacity, and shares leadership
2. Is accountable
3. Demonstrates drive, motivation, forward thinking
4. Engenders rapport and trust
5. Models and mentors

Challenges/ Barriers to public health leadership

Top 5 Personal

1. Colleagues and team members who are overloaded, overwhelmed, unresponsive, self-interested, passive
2. Organizational context and setting; lack of trust in the organization
3. Lack of political power; lack of political skills to influence policy
4. Lack of mentoring; lack of education or training; limited opportunities for continuing education
5. Underutilization of evidence to inform decision making both in strategy and developing performance indicators

Top 5 Organizational

1. Organizational structures that do not align with professional values and priorities
2. Competition between clinical care and public health mandate
3. Absent culture of improvement; lack of organizational support for evidence-based practice and barriers to evidence uptake
4. No dedicated time for leadership (including time for training and health promotion work)
5. Unclear mission; misalignment of goals, objectives, and incentives

Top 5 Macro-level

1. The public health sector is a small part of the larger health care system; with competition between curative and preventative activities
2. Outcomes of diminished funding; challenges for adequate funding of public health infrastructure, including technology
3. Lack of supportive legislation in some areas; legislation and public policy that affect population health outcomes
4. Sustainability of programs and efforts in the public health sector
5. Low visibility of public health practitioners

Facilitators/Enablers for public health leadership

Top 5 Personal

1. Are empowering; enable others by providing strong, unwavering support
2. Are champions for public health principles, actions and interventions
3. Are responsive and accessible
4. Are able to engender trust
5. Have credibility, are opinion leaders

Top 5 External

1. Organizations that value leadership at all levels and acknowledge, recognize, and take advantage of its formal and informal leaders
2. Organizations that foster trust through ongoing and transparent communication
3. Sustainable funding at system and community levels to maintain community engagement and population health programs
4. Mentorship and succession planning; professional development and networking support
5. Organizational empowerment of leadership vision; strategic and tactical support for the vision (ex. built-in support for vision in organizational planning and performance indicators)

Discussion

- The PHAC definition of leadership is not fully adequate; the outcome should be included.
- Values and ethics were not captured by the characteristics presented.
- Critical social theory was not chosen as a top knowledge area.
- Leaders need specific knowledge that goes beyond general leadership competencies.
- Perceived competition among the various sectors within the health system creates obstacles to public health leadership.
- There is an urgent need for new approaches that values and respects inter-professional teams, rather than individual practice and accomplishments.

Recommendations

- A glossary should accompany the competencies for leadership in public health practice.
- This project is about leadership, not management, and this leadership is exhibited by both individuals and teams at all levels throughout an organization.
- Consideration should be given to "levelling" the competencies (e.g., novice, intermediate, advanced) to take into account the leadership development process.
- Subsequent phases should explore in more depth the meanings associated with "values and ethics of public health".

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For information: ed.chnc@gmail.com

APPENDIX D.
CONSENT FORM

FOCUS GROUPS FOR LEADERSHIP COMPETENCIES FOR PUBLIC HEALTH IN CANADA

SPONSOR: **Community Health Nurses of Canada**

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Ardene Robinson Vollman, PhD RN 403-239-3180
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This consent form is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something that is mentioned here, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a scanned copy of this form once all signatures are in place. You may return a signed copy of this form scanned and attached to an e-mail addressed to: meadows@ucalgary.ca

BACKGROUND
The aim of this project is to build a set of leadership competencies for use by seven disciplines in public health (nursing, community medicine, public health nutrition, health promotion, epidemiology, environmental health/inspection, public health dentistry). The first steps are to complete an environmental scan that includes a scoping review of the literature (Phase I), an on-line survey of the membership of each professional disciplinary association (Phase II), a series of focus group discussions with leaders in public health in Canada (Phase III), and the development of competency statements through a Delphi Process (Phase IV).

WHAT IS THE PURPOSE OF THE STUDY?
A review of the literature in Phase I of this project has identified characteristics of successful public health leaders and enablers/facilitators and barriers for leadership in public health. An important step in preparing national competencies for the seven disciplines is to understand the degree to which public health professional leaders across the collective seven Canadian disciplines agree with the results of the review, and how they priorize these competencies. A secondary purpose is to determine if there are any useful organizational readiness tools in use in Canada that can inform a dissemination strategy.

WHAT WOULD I HAVE TO DO?

You will be invited to take part in a webinar discussion facilitated by one of the investigators along with 6-7 other participants. The webinar will be approximately one hour in length and will be audio recorded for later transcription and analysis. The investigator will ask a series of questions and you will respond to them as you are able. The webinars will be scheduled at times that are convenient to the majority of participants, respecting the multiple time zones across the country. The webinars will take place between May and June 2014. It is possible you will be asked to respond to some follow-up questions between May and June 2014 to ensure the accuracy of the interpretation of the results.

WHAT ARE THE RISKS?

There is a risk that other participants may discern your identity although you will be given a code to use to protect your privacy.

WILL I BENEFIT IF I TAKE PART?

If you agree to participate in this study there may or may not be a direct benefit to you. You are in the study because you have been identified as being a leader in public health in Canada, but there is no guarantee that this research will help you. The information we get from this study will help us to build competency statements for leadership in public health; these competency statements may be useful to you in the future to address your personal career development. The organizational readiness tool that will be developed as part of this project might be helpful for your use in disseminating the competency statements in your organization/discipline.

DO I HAVE TO PARTICIPATE?

Participation is entirely voluntary; there is no remuneration and no costs to you for participation. You may withdraw at any time without stating a reason either by sending an e-mail to the principal investigator prior to the webinar or by ceasing to participate once the webinar has begun. Any information you provide prior to withdrawal will be retained for analysis.

WILL MY RECORDS BE KEPT PRIVATE?

We will ask you to provide limited demographic information (e-mail address, sex, language, aboriginal status, profession, setting of work and geographic location); this information will be stored in a password protected file accessible only to the research team. To ensure your privacy, you will be given a code to be used during the webinar. All members of the research team will sign confidentiality agreements, but we cannot guarantee confidentiality of the group discussion itself, even though we will ask participants to honour their commitment to holding the discussion in confidence. Your demographic information will not be linked to your code name in any reports; all data will be aggregated and anonymized in the research report.

SIGNATURES

Your signature on this form indicates that you have understood to your satisfaction the information regarding your participation in the research project and agree to participate as a participant. In no way does this waive your legal rights nor release the investigators or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time without jeopardizing your health care. If you have further questions concerning matters related to this research, please contact:

Dr. Lynn M. Meadows (403) 242-2145

If you have any questions concerning your rights as a possible participant in this research, please contact the Chair of the Conjoint Health Research Ethics Board, University of Calgary at 403-220-7990.

Participant's Name	Signature and Date
Lynn Meadows Investigator/Delegate's Name	Signature and Date

The University of Calgary Conjoint Health Research Ethics Board has approved this research study.

A signed copy of this consent form will be given to you to keep for your records and reference.

APPENDIX E.
FOCUS GROUPS QUESTIONS

- Prior to the webinar, a scoping literature review was completed, and also an on-line survey of members of the seven public health disciplines represented in the project. You have received a summary of the results of these activities.
- Were you surprised by any of the results in the summary provided to you?
- Is there anything missing from the list of desirable characteristics of public health leaders?
  - Anything you think should be added?
  - Anything that should be deleted from the list?
- Thinking about enablers and facilitators for the exercise of leadership in public health in Canada, is there anything missing from the list provided.
  - Is there anything that should be added?
  - Is there anything that should be deleted from the list?
- Thinking about barriers to the exercise of leadership in public health in Canada, is there anything missing from the list provided?
  - Anything that should be added?
  - Anything that should be deleted from the list?
- Overall the lists If you were to give a number from 1 – 10 to score your degree of agreement with the lists provided (1 being little agreement; 10 being in total agreement), what score would you give? [Note to facilitator: do a round to get the scores]***if preferred we could ask people to submit their value through the live feedback feature***are we on the right track?
- In written comments provided by survey participants the issues of values and ethics in public health leadership were raised. What are your views on the role of values and ethics across the continuum of public health leadership?
  - What roles do the public health lens and population health approach play in values and ethics?
- Once the competencies are developed, they will be disseminated for uptake in public health employing agencies and educational programs. Are you aware of any organizational readiness tools to assess how inclined such agencies and programs will be to accept and use the competencies?
  - What might help the competencies be adopted?

Closing comments from the facilitator

- Thank you for taking part in this focus group by webinar. Your participation will assist in the development of leadership competencies for public health in Canada.
- You may be contacted at a later date to review the aggregated write-up of the four webinars; we call this member-checking. After the webinar, or after reflecting on the process, should you have additional comments you may e-mail them to Dr. Lynn M. Meadows at meadows@ucalgary.ca (contact info is provided on our presentation screen and today's presentation is available for download)

Thank you for your time, and goodbye all!!

APPENDIX F.
LINKS TO PROFESSIONAL CODES OF ETHICS

Public Health Profession	Organization	Link
Dentistry	Alberta Dental Association and College* Code of Ethics (2007)	http://oralhealthalberta.ca/wp-content/uploads/2011/09/Code-of-Ethics.pdf
Health Promotion	Institute of Population and Public Health, Canadian Institutes of Health Research Population Health Ethics: Annotated Bibliography (2009)	http://www.cihr-irsc.gc.ca/e/40740.html
Inspection	Canadian Institute of Public Health Inspectors Practicum Guideline for Training Agency and Trainees (2014)	http://www.ciphi.ca/pdf/bocpracticumguide.pdf
Medicine	Canadian Medical Association Code of Ethics (2004, reviewed 2014)	http://policybase.cma.ca/dbtw-wpd/PolicyPDF/PD04-06.pdf
Nursing	Canadian Nurses Association Code of Ethics for Registered Nurses (2008)	http://www.cna-aiic.ca/~/media/cna/files/en/codeofethics.pdf
Nutrition	Dietitians of Canada Code of Ethics for the Dietetic Profession in Canada (1996)	http://www.dietitians.ca/downloadable-content/public/code_of_ethics.aspx

* Sample only as each province has its own code of ethics.

APPENDIX E.

LEADS Framework

Key Points to Leadership Growth: A Checklist for Leaders, by Canadian College of Health Leaders, 2010, Ottawa, ON: Canadian College of Health Leaders.

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LEAD SELF: KEY CONCEPTS AND IDEAS

The *Lead Self* domain of the LEADS in a Caring Environment leadership capability framework, consists of four capabilities: a leader (1) Is Self-Aware, (2) Manages Self, (3) Develops Self, and (4) Demonstrates Character. Leaders who demonstrate these capabilities are able to:

Self-Aware

- Be emotionally self-aware. This refers to the ability to recognize the leader's own emotions and determine their impact on others. It requires the ability to accurately assess the leader's own emotional triggers and weaknesses, as well as one's emotional strengths.
- Be aware of perceptions and assumptions. This is the ability to understand the impact the leader's perceptions have on his or her sense of reality. Perceptions are the basis of creating paradigms, which often shape the way leaders select data and perceive events.
- Be aware of values and principles that underlie the choices and actions leaders take. Values are what may be personally worthy, relevant, and important, while principles are the collective standards, guidelines, or rules that we use to guide behaviour.

Manages Self

- Manage emotions. This refers to the ability to regulate both the expression and experience of emotions, including: emotional self-control, transparency, adaptability, achievement, initiative, and optimism.
- Exhibit personal mastery; that is, creating what one wants in life and in work. It can be developed by creating a personal vision and understanding the leader's own reflexive reactions.
- Generate Life balance. This is defined as the ability to successfully change, adapt, overcome, and cope with unexpected setbacks and general life challenges.

Develops Self

- Develop soft skills which include motivation, communication skills, team management, confidence, versatility, reliability, and emotional and social intelligence.
- Engage in Life-long learning, which refers to a mindset where every experience, opportunity, change, situation, challenge, and conflict is seen as an opportunity to learn.

Demonstrates Character

- Act with personal integrity. Integrity has four elements: consistency in words and action, consistency in adversity, being true to oneself, and displaying moral/ethical behaviour.
- Exhibit emotional resiliency. This refers to the ability to bounce back from setbacks and overcome adversity, to cope well with high levels of ongoing change and constant pressure, and to change and adjust from old, ineffectual habits that may be dysfunctional or maladaptive.

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ENGAGE OTHERS: KEY CONCEPTS AND IDEAS

In the LEADS in a Caring Environment framework, the domain *Engage Others* focuses on four specific capabilities: Leaders Foster Development of Others, Contribute to the Creation of Healthy Organizations, Communicate Effectively, and Build Effective Teams. Leaders who develop these four capabilities are able to:

Foster Development of Others

- Learn with others and encourage learning while working.
- Recognize and reward the work and effort of others.
- Model appropriate behaviour and deal directly with inappropriate behaviour.
- Coach, provide, teach, and create learning experiences in the context of the business.
- Create development plans that focus on learning in the area of strength.

Contribute to the Creation of Healthy Organizations

- Model and provide wellness activities and initiatives.
- Create and foster trust in connected relationships.
- Maintain a focus on safety, service and quality during change initiatives.
- Improve the body, mind, and spirit, or the what, how, and why of the organization.
- Ensure resources are aligned with performance requirements and that people have what they need to perform effectively.
- Invest development resources where there are opportunities to maximize leverage.

Communicate Effectively

- Ask more coaching questions and listen wholly to answers.
- Be sensitive to cultural nuances.
- Focus not only on what to communicate, but also on how.
- Use and foster mentoring, coaching, dialogue in conversations.
- Use different forms of communication to capture attention.

Build Effective Teams

- Encourage participation on teams from external partners, stakeholders, and community.
- Find ways to use people's strengths for team projects.
- Encourage the use of open source, social networking, and other new technologies to foster collaboration and research.
- Share vision and clarify goals.
- Create collaborative opportunities to learn and build trust.

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ACHIEVE RESULTS: KEY CONCEPTS AND IDEAS

The *Achieve Results* domain of the LEADS in a Caring Environment leadership capability framework consists of four capabilities. Leaders: (1) Set Direction, (2 Strategically Align Decisions with Vision, Values, and Evidence, (3) Take Action to Implement Decisions, and (4) Assess and Evaluate. Leaders who demonstrate these four capabilities are able to:

Set Direction

- Create a compelling vision for the future that includes clearly defined outcomes.
- Exhibit the ability to scan the environment, listen to customers/ clients/ patients, and collaborate to develop the vision and results.
- Communicate the vision and goals clearly and gain commitment from those who have to act, while not waiting for full agreement.
- Broaden their scope from a focus on the unit organization to one that includes the community and society.

Strategically Align Decisions with Vision, Values, and Evidence

- Understand the complexity of the context in which they are working in the health system and ensure that the vision, values and evidence are meaningful in that context.
- Align strategy with structure, culture, and skills; integrate information from various sources; and balance the use of evidence with experience.

Take Action to Implement Decisions

- Have an absolute focus on results and are able to command and let go of control at the same time. They work with those who are ready to act, reducing time associated with decision-making in order to deliver results more rapidly.
- Clarify the strategic focus and desired outcomes, determine the non-negotiable core and transparent measures of success, and then let go of the details.

Assess and Evaluate

- Hold people accountable to standards of performance and understand and use statistical and financial methods to set goals and measures for both clinical and organizational performance.
- Use tools for performance-based accountability that include the balanced scorecard and logic models.
- Ensure that measuring the achievement of results includes accurate data collection, good information systems, clear analysis, and relevant reports.
- Use data and information re progress toward desired results to course correct and adapt processes to achieve those results.

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DEVELOP COALITIONS: KEY CONCEPTS AND IDEAS

The *Develop Coalitions* domain of the LEADS in a Caring Environment leadership capability framework, consists of four capabilities: Leaders (1) Purposefully Build Partnerships and Networks to Create Results, (2) Demonstrate a Commitment to Customers and Service, (3) Mobilize Knowledge, and (4) Navigate Socio-Political Environments. Leaders who develop these capabilities are able to:

Purposefully Build Partnerships and Networks to Create Results.

- Understand the different types of forms for collaborative initiatives and select the type the most suits the aim.
- Seek out and maintain executive management and/or board-level support. Strong commitment and awareness enables cooperation and teamwork.
- Be selective in choosing a partner. They use criteria to check reputations of organizations, and do due diligence in selecting them.

Demonstrate a Commitment to Customers and Service.

- Ensure and maintain service to patients, clients, and citizens at the core of the value proposition for the coalition.
- Act with trust and integrity in ensuring that all partners remain true to the value proposition.
- Demonstrate a commitment to customers and services by directing and continuously translating this commitment into desired outcomes over time. This commitment is not an end in itself, but the needs to improved outcomes for patients, clients, and citizens.

Mobilize Knowledge.

- Understand how knowledge resources can be combined or developed to create new products and services for health service delivery.
- Redesign services to generate value across the coalition.
- Develop clear performance criteria and assess performance on a regularly scheduled basis. What gets measured counts.

Navigate Socio-Political Environments.

- Know differences can be an asset. They use techniques to foster high levels of engagement and participation to understand the partner's organizational culture.
- Adopt a win-win mindset. They know what success means to all partners.
- Create strong formal agreements that foster a clear understanding of objectives, contributions, rights and obligations, performance measures, governance mechanisms, termination and recommitment provisions, and processes to deal with conflict.
- Develop emotional resiliency by building your self-confidence, optimism, social support, and expression of positive emotions.

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SYSTEMS TRANSFORMATION: KEY IDEAS AND CONCEPTS

The *Systems Transformation* domain of the LEADS in a Caring Environment framework consists of four capabilities. Leaders: (1) Demonstrate Systems/ Critical Thinking, (2) Encourage and Support Innovation, (3) Orient Themselves Strategically to the Future, and (4) Champion and Orchestrate Change. Leaders who transform systems are able to:

Demonstrate Systems/Critical Thinking

- Understand the pressing issues requiring action within Canada's health system. Recent commissions, task forces, reviews, and research funding agencies have identified many of the issues that generate a demand for systems transformation.
- Look at the health system both from a complex, organic systems view as well as a clinical, technical systems view.
- Accept that their worldview, beliefs, assumptions and perspectives influence their ability to take action to create change.

Encourage and Support Innovation

- Understand that innovation—either drawn from other sectors or found in a health context—is the engine of creativity. They create a supportive climate to encourage it.
- Be aware that some of the best examples of innovative practices are Plan, Do, Study, Act (PDSA) models, LEAN management, and Total Quality Improvement. These are all evidence-based approaches to innovation that have been applied in a health context.
- Use approaches such as action research to create innovation on a large scale.

Orient Themselves Strategically to the Future

- Be visionaries that are always in tune with trends, issues, and values that are shaping the future, and use a variety of intelligence gathering techniques to be in touch with those trends and issues.
- Emphasize sophisticated relationship building/management, influence, communication, and negotiation skills to engage diverse individuals and publics in creating the future. There are a number of tools (e.g., future search) that leaders can use to do this.

Champion and Orchestrate Change

- Be responsible for improving health system performance and to take actions that renew the Canadian health system.
- Engage all pertinent actors in a system early in the conceptualization, framing, and implementation of change, with particular attention to clinical professions.
- Align energy across a system to execute change. Inter-professional teamwork, dialogue, etc. are key tools and techniques leaders can use to do this.
- Systems Transformation efforts need to take into account all five LEADS in a Caring Environment domains as sets of interdependent actions to create change. This is key to shifting from traditional managerial efforts to creating enabling conditions for leading Systems Transformation across health systems.

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