Developing Inter-organizational Networks to Improve Community-based Primary Health Care

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Acknowledgements

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PURPOSE

This White Paper is intended as a guide for efforts to develop effective networks for improving community-based primary health care (CBPHC) in British Columbia. The paper was informed by input from key stakeholders and discussions at a workshop held in September, 2013.

The White Paper is focused on addressing two key questions:

- *What role(s) do inter-organizational networks play in community-based primary health care?*
- *Are there any ‘simple rules’ that could help make these networks more effective?*

A key assumption underlying this work is that networks enable the improvement of both processes and outcomes within complex adaptive systems (e.g. our system of health care). It is further assumed that an understanding of complex adaptive systems (CAS) is essential for supporting network development and operation (Holmes et al, 2012; Riley & Best, in press).

DEFINITIONS

**Community-based Primary Health Care.** CBPHC covers the broad range of primary prevention and primary care services within the community, including health promotion and disease prevention; the diagnosis, treatment, and management of chronic and episodic illness; mental health services, home care, long term care and rehabilitation support; and end-of-life care.

CBPHC involves the coordination and provision of care by nurses, social workers, pharmacists, dieticians, public health practitioners, physicians and other health care providers in a range of community settings, including homes, healthcare clinics, doctors’ offices, public health units, hospices, and workplaces. CBPHC is also linked to clinical specialists, hospitals, and community services including schools, justice and law enforcement, income support and housing programs, and others. CBPHC is delivered in a way that is both patient- and population-centred and responsive to economic, social, cultural and gender differences.

**Inter-organizational Health System Networks.** These are formally mandated networks linking community, public health and clinical health service organizations to achieve common goals, with relationships based on such factors as flows of resources, information, people, and shared ideas. Although these overarching networks are formally established and governed, they can include spontaneous, informal sub-networks, linking actors within and across organizations.

**Collaborative Leadership.** Effective inter-organizational networks engage leaders at all levels, and include both designated (e.g. individuals formally in charge of an overall program) and distributed (e.g. representatives from professional and partner organizations sharing responsibility for program components) leadership. Collaborative
leadership requires individuals who can create and communicate a common vision; share lead roles as appropriate; and deal with conflict, including disagreements that cannot be resolved.

**THE COMPLEXITY CHALLENGE**

Incremental approaches to introducing change in Canada’s health systems have failed to sufficiently improve the quality of healthcare services (Canadian Health Services Research Foundation, 2012). Recently, the Canadian Foundation for Healthcare Improvement (CFHI, formerly the Canadian Health Services Research Foundation) has called for large-scale, coordinated efforts to change not only the ‘architecture’ of the health system, but also the behaviours, attitudes and beliefs of the people it comprises (Canadian Health Services Research Foundation, 2012). Multiple terms exist for describing system change on this scale. While we acknowledge this diversity of terminology, for this paper we are using the outcomes-oriented perspective offered by the term ‘large system transformation’ (LST), which is understood to be:

“…coordinated, system-wide change affecting multiple organizations and care providers, with the goal of significant improvements in the efficiency of health care delivery, the quality of patient care, and population-level patient outcomes.” (Best et al., 2012)

As noted by the World Health Organization, LST occurs at multiple levels, including individuals, families and communities; practitioners and clinicians; organisations; and systems (World Health Organization, 2007). Having an ‘analytical lens’ for understanding how these elements interconnect is critical for conceptualising the boundaries of a system and the nature of the relationships it contains, and for identifying the points at which policies may have most impact (Dattee and Barlow, 2010). Such a lens can also sharpen the focus on those features of complex adaptive systems that may not be readily apparent, including their self-organizing nature, dependence on history and feedback, their capacity for learning and the generation of emergent solutions, and their non-linear, dynamic and often counter-intuitive behaviour (de Savigny and Adam, 2009).

Too often the ‘fuzzy’ boundaries of complex systems are misunderstood as being limitless, leading to notions of system complexity as being intractable (Kannampallil et al., 2011). This problem is made worse by the common use of reductionist techniques that:

a. Apply static thinking to dynamic problems;
b. Focus on individual system components rather than relationships;
c. See system behaviour as driven by external forces instead of internal system actors;
d. Focus on isolated factors correlated with specific results rather than viewing causality as an ongoing process with feedback effects that modify initial conditions (Sterman, 2006, de Savigny and Adam, 2009).

For these reasons, the redesign of health systems requires ways of thinking that are not overwhelmed by system complexity, that do not equate complexity with merely being
difficult, and that recognise health systems as greater than the sum of their parts (Best et al., 2007).

A key requirement for large system transformation is having a shared vision that reflects the dynamic complexity of the challenge. The Triple Aim (Berwick, 2008) has been adopted nationally (Council of the Federation, Health Care Innovation Group, 2012) and provincially, and includes the following objectives:

1. To improve the health of the population and reduce health inequities;
2. To improve the quality of patient care and the patient experience in the primary healthcare setting; and
3. To reduce healthcare expenditures.

The Triple Aim provides a starting point for a shared vision for LST by pinpointing what is to be achieved through innovation and transformation. However, it does not address the question of how. Toward that end, a ‘complexity lens’ offers a fresh and promising perspective for planning transformation initiatives.

The value of a CAS approach
In 2001, the Institute of Medicine (IOM) produced Crossing the Quality Chasm, a landmark report that endorsed the idea that health care systems are complex adaptive systems (IOM 2001). This report followed an early publication about CAS (Zimmerman, Lindberg, and Plsek, 1998) and emerged at the same time as an influential series of papers in the British Medical Journal (e.g., Plsek and Greenhalgh, 2001, Plsek and Wilson, 2001), which emphasized the value of a CAS lens to understand how to improve and transform health systems. These publications argued that although CASs are complex and unpredictable, they are amenable to guided transformation by applying simple rules that are flexible enough to allow for adaptation – an important operating principle for this approach to system redesign.

In contrast to many top-down LST efforts, a CAS approach encourages the natural creativity of people within the system to adapt to circumstances and develop better ways of doing things (Lanham et al., 2009). Improving processes and outcomes using a CAS approach involves creating a supportive work environment that encourages relationships and harnesses the skills of individuals within the system.

The implications of this approach for planning are far-reaching. Lead agents of change must give up notions of control over the process of change and should avoid language that refers to ‘overcoming resistance’ (Plsek and Wilson, 2001; Sterman, 2006). Instead, efforts should be directed toward iterative planning and practice cycles (e.g. PDSA) that recognize success as being less about meeting specific targets and more about shifting system behaviour. Implementing change in a CAS requires constant monitoring and adaptation to new contexts and circumstances. Building in principles and resources that support a learning environment (Senge, 1990) allows organizations to take advantage of local knowledge for generating continuous improvement. Similarly, evaluating LST from a CAS perspective means adopting appropriate goals and objectives, avoiding overly-specific outcome expectations, and paying attention to positive developments in generic processes that support improvement.
A systems thinking approach to system redesign

It must be noted that a shift to greater reliance on inter-organizational networks alone cannot achieve system transformation. A systems-thinking approach is needed for understanding the complexity of health systems and guiding the transformation process.

Such a systems-thinking approach requires:

1. Strategic policy-making that recognizes the potential of networks for system transformation.
2. Policy that is informed by individuals, groups and communities who recognise the challenges of working with complex systems; the need for understanding the behaviours of these systems; and the iterative/evolving requirements of system transformation.

As defined by Sterman, “systems thinking is an iterative learning process in which we replace a reductionist, narrow, short-run, static view of the world with a holistic, broad, long-term, dynamic view, reinventing our policies and institutions accordingly” (Sterman, 2006). Systems thinking improves our understanding of systems behaviour by acknowledging the impact of feedback loops and recognizing how resources flow through systems, how they accumulate at certain points, and how seemingly small (or large) inputs may result in large (or small) system effects (Best et al., 2007).

A systems-thinking approach emphasizes the importance of relationships between parts and the whole and recognizes the unpredictability of system behaviours (Plsek and Greenhalgh, 2001, Best et al., 2007). It also encourages multi-level and multi-actor (e.g. interdisciplinary) initiatives and uses tools (such as system dynamic modeling, concept mapping, and social network analysis) to understand system behaviours across the often poorly defined boundaries of health care environments (Plsek and Greenhalgh, 2001).

Until now, large scale structural changes within the health care system have rarely been accompanied by a coordinated set of evidence-informed actions. As a result these initiatives have had potentially damaging effects on health system performance (CHSRF, 2011a). For example, simply using key levers for change, such as those with financial implications, has contributed to improved acute care outcomes and accountable, hospital-based funding. However, few non-acute care improvements have been achieved.

Broad-based LST requires a more integrated set of strategies, coordinating the use of financial levers, governance levers, legislative levers and healthcare delivery arrangements (CHSRF, 2011a).

A coordinated approach to LST

Critical activities for a more coordinated approach to LST in health systems include:

1. Creating strategic re-alignment;
2. Recognizing organizations as the drivers of change;
3. Working with professional cultures;
4. Creating enabling environments;
5. Increasing patient and public engagement; and
In addition to these foundational activities, there should also be an explicit focus on relationships; clear linkage between what needs to be done and who needs to do it; greater integration of research and policy-making in academic, government and health authority organizations; and an organizing framework for fostering collaboration across disciplines (Lindstrom et al., 2011). These principles have critical implications for the design and implementation of quality improvement initiatives, primary care reform, and strategies for increasing patient-centred and integrated care (cf. Best et al, 2012; Best & Saul, 2012; Canadian Academy of Health Sciences, 2010; de Savigny & Adam, 2009; Snowdon & Cohen, 2011). They also underscore the importance of an enabling environment that supports professional cultures (CHSRF, 2011b), and the critical roles of leadership, ongoing performance measurement, historical context, accountability, and engagement of patients and practitioners in transformation efforts (Best et al., 2012).

FOUNDATIONS FOR TRANSFORMATION

Need for integration and coordination
The move toward greater levels of integration for people, organizations and agencies is a challenge for health systems established within traditional hierarchies and with independent, stand-alone business operations (e.g. family physicians). As opposed to a hierarchical command and control mode of operation, a systems-based approach to increased integration entails cooperation and collaboration among organizations involved at all levels of care (primary, secondary, tertiary, restorative and long-term care).

The role of networks
Health care system integration can be viewed on a continuum, from fully segregated to fully integrated. From this perspective, network formation is a stage on the path toward a fully integrated system, with ‘cooperation’ as a further step between network formation and full integration (Aghgren and Axelsson, 2005). This continuum is illustrated in Figure 1 below, from the recent Institute of Medicine report, Primary Care and Public Health: Exploring Integration to Improve Population Health (2012).

Figure 1: Continuum of Integration (IOM, 2012)

This model shows the dual nature of integration, occurring both vertically and horizontally. Vertical integration occurs between organizations or organizational units that occupy different levels within a hierarchical structure, while horizontal integration may take place “between organizations or units that are on the same hierarchical level or have the same status” (Axelsson and Axelsson, 2006).

Ten factors have been proposed as requirements for increasing the degree of integration
in health care (Suter et al., 2009):

1. Comprehensive services across the continuum;
2. Patient focus;
3. Geographic coverage and rostering;
4. Standardized care delivery through inter-professional teams;
5. Performance management;
6. Information Systems;
7. Organizational culture and leadership;
8. Physician integration;
9. Governance structure;
10. Financial management.

Expansion of networks in health care
It has been suggested that the recent interest in networks for improving health care may stem from the growing issue of chronic disease: “This relocates health care away from the acute hospital and towards community-based multi-disciplinary teams” (Ferlie et al., 2010). In these arrangements, health services are primarily needed within the community, with support for brief, occasional hospital admissions. The chronic disease paradigm therefore requires linkages between health care organizations, public health, individual practitioners and social programs in ways that bridge organizational and professional boundaries (Bate, 2000).

This increased focus on chronic disease (and its prevention) has been accompanied by a decline in the dominance of acute care hospitals, and growing recognition of the importance of networks and partnerships (Ferlie et al., 2010). An additional impetus has been rapid change to the way information is shared electronically, lending support for more networked and ‘knowledge-focused’ organizational structures. In these systems, the levers of intervention for system change involve “the ‘management of meaning’ and the creation of a common identity and culture to replace traditional top down hierarchies and management styles” (Alvesson, 2004).

Network structures
A prevailing assumption within the health care management literature is that tightly bound networks are more desirable than loosely bound arrangements (Ferlie et al., 2010). Altogether, the literature distinguishes four major types of network structure:

(i) Learning and informational networks: These networks are the most commonly encountered networks in health care and involve the participation of individuals and organizations for sharing information and developing guidelines for best practice. Funding or sponsorship typically comes from a government agency, research group or professional association. These networks do not necessarily incorporate integrated service delivery structures.
(ii) **Coordinated networks**: These aim to establish new ways of integrating and connecting professionals and organizations, such as through new care pathways. Despite the move toward integration, involved individuals and organizations retain independent clinical and financial responsibilities. Within this structure, there are differences in the degree of network management that occurs. At the more managed care level (which is also more hierarchical), network activity and clinical services are tightly controlled.

(iii) **Procurement networks**: These networks (many of which have been introduced in the US) attempt to integrate multiple care providers to service all elements of the care continuum. This includes health insurance, inpatient and outpatient care, and long-term care services. Literature suggests that these efforts have not necessarily resulted in the level of integration first envisioned for them.

(iv) **Managed care networks**: These network structures aim to fully integrate network participants into long-term, stable and often contractually-driven relationships. Kaiser Permanente is an example of a managed care network where different providers are subcontracted, and where a comprehensive care package emphasizing primary and non-hospital based care is provided.

A fully integrated health care system may require a mix of all four network types. But is full integration desirable or even possible? To date there is little evidence for how these different types of network operate in complex systems to specifically enable transformation (Best & Holmes, 2010).

A second major caveat is the tension between ‘managed’ and ‘self-organizing’ networks. Complexity principles underscore the critical tension between ‘make it happen’ and ‘let it happen’ processes. To illustrate from a CAS perspective, Snowden and Boone (2007) compare the leadership requirements for four different system types: simple, complicated, complex and chaotic. In a simple system, which is relatively stable and has clear cause-and-effect relationships, traditional leadership and management practices work well, including command and control, delegation of well-defined roles/responsibilities, organized structures and discrete evaluations (Trochim et al, 2007).

However, as systems become more complex, leadership needs to rely more on facilitation and empowerment, self-organizing structures, participatory action and continuous evaluation. In such systems, instead of attempting to impose a course of action, “leaders must patiently allow the path forward to reveal itself” (Snowden and Boone, 2007: 74). Leaders must model the openness, risk taking and reflection necessary for learning, and communicate a compelling vision of the desired organizational change, providing the support and personal advocacy needed to lead others towards it (Iles and Sutherland, 2001). The bottom line is that to the extent that a system truly is complex and adaptive, where innovation and change significantly come from the bottom up through the actions of individuals and teams, very different (i.e. non-traditional)
management and leadership approaches are required (Best, Saul & Willis, 2013; Herbert & Best, 2011).

**Network governance**
Governance tends to imply hierarchy and control and thus may seem at odds with the idea of networks as collaborative arrangements. Yet different networks can have varying degrees of formalised behaviour and linkages, including hybrid networks with explicit governance strategies.

In public management literature, governance is understood as the funding and oversight responsibility of government agencies. Governance activities exert control over the behaviour of management teams and the daily operations of an organization. Operationally, such governance makes sense, but for inter-organizational networks, the legal/operational imperative for governance may not exist. However, goal-oriented networks require some form of structural stability so that participants engage in mutually supportive activities, conflicts (internal and external) are addressed, and resources are used efficiently (Provan and Kenis, 2007).

Two general forms of network governance are evident. Networks can be brokered or not brokered, and if brokered they may be participant or non-participant governed (Provan and Kenis, 2007).

Non-brokered networks exist where every organization within the network has a governance role. The resulting networks demonstrate shared governance, and are often highly dense (i.e. having numerous inter-organizational connections) and decentralised. In contrast, highly brokered networks exhibit few direct inter-organizational ties, with most connections occurring through a single or small number of brokering organisations. In such brokered networks, governance may be assumed by network participants or by an agency external to the network (i.e. a network administrative organization or NAO).

Each form of network governance has its unique structural arrangement and associated advantages and disadvantages. These are described below.

**Participant governed networks**
This is the most common and simplest form of network governance. Members of the network provide governance mechanisms through formal or informal means. Formal means may include regular meetings, while informal means may include ongoing (but largely uncoordinated) activities. Participant governed networks may be highly decentralised with governance duties shared among all network participants, or highly centralised with a member organization assuming the majority of network governance duties.

Participant governed networks are common in healthcare, where the direct engagement of multiple organizations is critical for building community capacity (Provan and Kenis, 2007). Shared governance relies on the collective involvement and participation of all agencies to make decisions and manage the network. Power is distributed amongst
participating agencies so that regardless of size, resources or performance, decision-making authority is shared.

**Lead organization governed networks**
Inefficiencies resulting from shared governance may lead some networks to develop a more centralized approach to governance through a lead organization. In health settings, this may occur when a single provider agency assumes the position of lead agency due to its central position in managing client/patient flow and/or key resources (Provan and Kenis, 2007). In community health settings this lead organization may be a hospital or health clinic (Weiner and Alexander, 1998). Mental health settings may place a community mental health centre in this role (Provan and Milward, 1995). In a local health policy network the lead organization may be a government department (Brandes et al., 2003, Hoeijmakers et al., 2007).

The lead organization takes responsibility for all major network-level activities and decisions. The lead organization also takes responsibility for the network administration duties and helps facilitate network member organizations to achieve network level goals. In these situations, governance structures can become highly centralised.

**Non-participant network governance**
The final category of network governance involves a network administrative organization or NAO. These organisations emerge in non-participant governed networks and act as a broker to coordinate and sustain network activities. Member organisations are free to interact with each other, however many interactions are moderated by the NAO. Unlike the lead organization governance model, in this model the NAO is not a network member and does not deliver services or engage in network activity.

This structure overcomes many of the challenges of shared governance in participant governed networks. As a separate entity, the NAO structure is capable of managing complex issues in large and diverse networks, as well as lending legitimacy to network activities. Formalised NAOs often have board structures that deal with strategic network level activities, while NAO staff has responsibility for operational decisions.

**Governance models and network effectiveness**
Different network governance models can have implications for network effectiveness (Provan and Kenis, 2007). While many networks result from a mandate and have little choice about governance structure, others can explore governance models and options. It has been suggested that the effectiveness of a governance model varies according to four key factors. These factors are outlined in Table 1 below and include trust, size (number of network participants), goal consensus, and the nature of the task (Provan and Kenis, 2007).
Table 1: Key Predictors of effectiveness of network governance forms (From Provan and Kenis (Provan and Kenis, 2007))

<table>
<thead>
<tr>
<th>Governance form</th>
<th>Trust</th>
<th>Number of participants</th>
<th>Goal consensus</th>
<th>Need for network level competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared governance</td>
<td>High density</td>
<td>Few</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Lead Organization</td>
<td>Low density, highly centralised</td>
<td>Moderate</td>
<td>Moderately low</td>
<td>Moderate</td>
</tr>
<tr>
<td>Network Administrative Organization (NAO)</td>
<td>Moderate density, NAO monitored by members</td>
<td>Moderate to many</td>
<td>Moderately high</td>
<td>High</td>
</tr>
</tbody>
</table>

The implication from Table 1 is that as “trust becomes less densely distributed throughout the network, as the number of participants gets larger, as network goal consensus declines, and as the need for network level competencies increases, brokered forms of network governance (involving lead organizations or an NAO) are likely to be more effective than shared-governance networks.” (Provan and Kenis, 2007)

Determinants of network effectiveness
In the literature, a number of frameworks for maximizing network effectiveness have been developed.¹ The framework shown in Table 2, listing eight key influencing factors for network effectiveness, was used for the analysis of UK-based health system network activities (Ferlie et al., 2010).

Table 2: Revised network effectiveness elements (Ferlie et al., 2010)

<table>
<thead>
<tr>
<th>External Impact of Network</th>
<th>Client level effectiveness</th>
<th>Overall community level effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Capacity of Network</td>
<td>Inclusiveness and engagement of stakeholders</td>
<td>Shared learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Capacity for innovation and change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to reach stated goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sustainability and viability</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unintended outcomes (both perverse and serendipitous)</td>
</tr>
</tbody>
</table>

¹ Appendix A offers a more detailed discussion of these frameworks.
Turrini et al (2010) consider network functioning a critical determinant of network effectiveness. More specifically, they highlight the role of network managers as key influencers of network functioning, and associate many of the following elements of network functioning with the activities of network managers:

(i) **Managerial work**: Network managers (either in NAOs or Lead organizations) need to be able to implement appropriate and effective administrative systems, guide and/or motivate staff, improve appropriateness of service delivery, and implement technical solutions such as electronic support systems.

(ii) **Generic networking**: Network managers need to not only develop appropriate systems for running the daily activities of networks, they also need to be able to engage in traditional networking activities that build relationships between network participants as well as build relationships external to the network. Recent thinking has started to develop the concept of “population health integrators” in a similar role (cf. Chang, 2012).

(iii) **Buffering instability and nurturing stability**: These managerial actions assist in resolving tensions and building connections between network member organizations. This relies on effective network management, to potentially change formal arrangements and governance structures in order to resolve ‘turf’ issues. Effective management creates an internal network environment that supports participation and information exchange, maintains harmony, and assists in developing ways of coping with network complexity. Network managers are also tasked with the role of ensuring network commitment to a common purpose.

(iv) **Steering network processes**: Strong leadership is a key factor in steering networks and achieving network goals. This stewardship role begins by establishing a mission statement and focused activities for achieving that mission. While action planning is important, network scholars also suggest successful network managers are those who: engage in ethical, participative decision making; are able to ‘activate’ the necessary actors and resources for achieving network outcomes; and, are agile in responding to changing circumstances and demands so that the network may be repositioned according to the external environment.

**FURTHER CONSIDERATIONS**

Complex problems require complex solutions. And because strategy is context dependent, there are no clear-cut answers and many persistent questions. For example:

- Are high functioning inter-organizational networks possible when individual member organizations vary in their abilities to achieve network effectiveness?
- What elements are critical for individual and inter-organizational networks to achieve shared goals related to community-based primary health care?
- Could a set of simple rules suffice to keep system transformation efforts on track?
• How might network governance help connect care provider networks with the patients and community being served? Currently missing in primary care in Canada is a means for care providers to report to their communities on health care services being delivered (accountability) and the outcomes achieved in terms of both individual care and population health. At the same time, these care providers need to hear back from the community about what works well and where there may be deficiencies (engagement).

**KEY STAKEHOLDER WORKSHOP DISCUSSION**

At a workshop in September 2013, organized by the Institute for Health System Transformation and Sustainability with the assistance of the InSource Research Group, stakeholders representing BC’s health care system were invited to consider these questions and explore opportunities for developing inter-organizational networks toward improving community-based primary health care in BC. (See Appendix B for the list of participants.)

The workshop started with a review of six key issues that must be addressed by any initiative attempting the transformation of community-based primary health care. These are:

• Resistance to change: Although practitioners may recognize a need for change, there may still be resistance based on concerns that change might not work and could make things worse.

• Complexity: CBPHC is particularly challenged by the rising demands of chronic disease management, but leaders are hard pressed to deal with such complex health system issues.

• Sustainability: It was proposed that system change should be introduced through prototypes rather than pilot projects, with successful initiatives sustained and scaled up through engagement/partnership with the MoH.

• Context: To succeed, CBPHC change initiatives must be context specific and engage the local community.

• Public health & primary care: Better engagement between the population and primary health care systems is needed, especially for such issues as HIV, obesity, addictions and mental health.

• Data: There must be improvements in the ability to access and exchange meaningful health data in real time.

*Simple Rules Help Keep Efforts on Track*

Workshop discussion led to a series of “simple rules” for maintaining successful networks within a complex adaptive system, such as the CBPHC system. These rules seek to establish the following as requirements for network success:

• A shared vision of success within a culture of experimentation
• A specific target population with measures of success
• A measurably more positive, culturally sensitive patient experience and easier, faster access to care
• An engaged stakeholder group that fits the network scope as determined by the goals of the network
• Elimination of all barriers to active participation in the network and its work. This may require a culture shift to enable more distributed leadership and partnerships, increased acceptance of risk, and better integration of community/population health issues with care planning
• Readily available data for monitoring system performance, enabling quick changes in response to changing conditions
• Readily available data for decision making (clinical and administrative)
• Data fed back into the system to support continuous improvement
• Governance mechanisms fit for purpose and context. Governance supports and promotes citizen/patient engagement and accountability
• Network sustainability in the face of organizational and leadership changes
• A network culture characterized by high levels of trust, collaboration and honesty
• Innovation and a willingness to question everything

RECOMMENDATIONS FOR ACTION

Following the September 23 workshop, a group of workshop contributors – including Linda Peritz, Cameron Willis, and InSource team members Allan Best, Carol Herbert and John Millar – developed the following recommendations for establishing networks to improve CBPHC in British Columbia, derived in part from the comments and questions of participants in the workshop.

A. Design and Develop Networks for Success

1. Pinpoint the purpose and structure of the network (e.g. managed versus self-organizing) and design accordingly

2. Develop a compelling shared vision with key stakeholders across participating organizations and at all divisions and levels within them, that (1) pinpoints common aims and reflects the dynamic complexity of the challenge, (2) translates to measurable milestones and impacts, and (3) clearly articulates roles and benefits for all players

3. Create a local governance and operating structure that provides:
   a. Clear decision making and resource sharing mechanisms
   b. Accountability and engagement at the local (CBPHC) level
   c. Ways to connect with and contribute to a province-wide learning CBPHC network

4. Build knowledge development and sharing tools (e.g. evidence synthesis, performance feedback tools, forums for reflection) and strengthen expectations for a robust learning network
B. Focus on the People

5. Develop and nurture distributed leadership skills and practices with all players

6. Train health professionals so that they understand the concept of complexity in health care and how collaboration occurs in networks

7. Ensure that staff at all levels understand the broad goals of the network and what authority and responsibility they have to modify usual practices in the service of achieving joint goals

8. Reward/support staff who take risks in order to achieve joint goals of the network and link risk-taking to learning.

9. Build in sufficient staff stability and foster personal relationships among network participants.

C. Build Effective Incentives and Support Systems

10. Create databases that are integrated into PDSA cycles/QA feedback loops

11. Invest in communications systems that ensure everyone understands the broad initiative, knows their role, and is informed about other work that is going on

12. Create alternative funding approaches for physicians that make it easier for them to participate in inter-organizational networks

CONCLUSION

Health care system renewal efforts in Canada have been only modestly successful, in large part because of a failure to come to grips with the complex adaptive nature of our health care system. However, a deeper understanding of this complexity has been developed over the past decade. As we get closer to understanding the requirements for health system transformation, what is needed now is action to translate what to do into how to do it strategy.

System transformation in community-based primary health care requires effective inter-organizational collaboration. A range of options for network design and governance are available, as outlined in this paper. However, there is no one-size-fits-all solution. Thoughtful planning, flexible leadership, capacity development, and continuous learning offer the most promising way forward.

Distributed leadership and community-driven innovation are two of the simple rules for system transformation. These rules and others are reflected in and supported by the recommendations for action outlined within this paper. Altogether those recommendations provide strong direction for the implementation and ongoing sustainability of effective networks for CBPHC system transformation.
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Chang 2012


Appendix A. Determinants of network effectiveness

In the current literature on network effectiveness, three frameworks have been described, along with the key factors influencing their effectiveness. Provan and Milward (1995, 2001), Ferlie et al. (2010) and Turrini et al. (2010).

Provan & Milward’s seminal work on network effectiveness built a framework for comparing outcomes for different types of networks (Figure 1). However, the absence of governance as a key factor for this framework must be noted.

Figure 1: A preliminary theory of network effectiveness (Provan and Milward, 1995)

![Network Effectiveness Diagram]

In a systematic literature review on the effectiveness of public sector networks and building on the work of Provan and Milward, Turrini et al.(2010) noted a broadening of the concept of network effectiveness by Provan and Milward to include an “overall benefit for the community” beyond client level well-being, and the importance of understanding network “sustainability, legitimacy and maintenance...”

In response to these issues, the framework proposed by Turrini et al. considers network effectiveness on five dimensions: (1) client-level effectiveness; (2) overall community-level effectiveness; (3) ability to reach stated goals; (4) capacity for innovation and change; and (5) sustainability and viability (Figure 2).
The Turrini framework was adopted by Ferlie et al. in their analysis of UK-based health system network activities. (Ferlie et al., 2010) In applying the Turrini framework, Ferlie et al. posited three additional elements related to network effectiveness: (1) inclusiveness and engagement of stakeholders; (2) shared learning; and (3) the development of unintended outcomes (both perverse and serendipitous) (Ferlie et al., 2010). The final network effectiveness elements proposed by Ferlie et al. are outlined in Table 1.

**Table 1: Revised network effectiveness elements (Ferlie et al., 2010)**

<table>
<thead>
<tr>
<th>External Impact of Network</th>
<th>Client level effectiveness</th>
<th>Overall community level effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Capacity of Network</td>
<td>Inclusiveness and engagement of stakeholders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shared learning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capacity for innovation and change</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to reach stated goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustainability and viability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unintended outcomes (both perverse and serendipitous)</td>
<td></td>
</tr>
</tbody>
</table>
### Appendix B. Key Stakeholder Workshop Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allan Best</td>
<td>InSource Research Group</td>
<td>Christine Massey</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>Jen Bitz</td>
<td>InSource Research Group</td>
<td>John Millar</td>
<td>Independent / InSource</td>
</tr>
<tr>
<td>Vickie Cammack</td>
<td>Tyze</td>
<td>Marc Pelletier</td>
<td>Fraser Health</td>
</tr>
<tr>
<td>Venie Dettmers</td>
<td>Vancouver Coastal Health</td>
<td>Linda Peritz</td>
<td>Institute of Health System Transformation &amp; Sustainability</td>
</tr>
<tr>
<td>Joanne Douglas</td>
<td>Vancouver Coastal Health</td>
<td>Irene Street</td>
<td>Vancouver Coastal Health</td>
</tr>
<tr>
<td>Colleen Hart</td>
<td>Fraser Health</td>
<td>Simon Sutcliffe</td>
<td>Institute of Health System Transformation &amp; Sustainability</td>
</tr>
<tr>
<td>Carol Herbert</td>
<td>Western University / InSource</td>
<td>Malcolm Weinstein</td>
<td>Workshop facilitator</td>
</tr>
<tr>
<td>Ron Lindstrom</td>
<td>Royal Roads University</td>
<td>Cameron Willis</td>
<td>University of British Columbia</td>
</tr>
</tbody>
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