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A COMPARATIVE STUDY OF THREE TRANSFORMATIVE HEALTHCARE SYSTEMS: LESSONS FOR CANADA

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1 KEY MESSAGES

- Several regional healthcare systems around the world have achieved high levels of performance through system-wide efforts to improve quality that include long-term strategies and investments to improve the delivery of care and outcomes, while limiting cost increases.
- An analysis of three such systems in Alaska, Utah and Sweden suggests 10 themes underlying the creation and sustaining of high performance. These themes are:
    - Quality and system improvement as a core strategy
    - Developing organizational capabilities and skills to support improvement
    - Robust primary care teams at the centre of the delivery system
    - Engaging patients in their care and in the design of care
    - Promoting professional cultures that support teamwork, continuous improvement and patient engagement
    - More effective integration of care that promotes seamless care transitions
    - Information as a platform for guiding improvement
    - Effective learning strategies and methods to test and scale up improvements
    - Leadership activities that embrace common goals and align activities throughout the organization
    - Providing an enabling environment buffering short-term factors that undermine success.
- Healthcare systems in Canada have experienced difficulties in creating and sustaining large-scale improvements; local initiatives are difficult to replicate and spread, and improvement efforts are often limited in scale.
- Canada could support a broader strategy to implement many of the elements responsible for success in the three exemplary systems studied. These elements include:
    - Expand and enhance the roles of quality councils and similar bodies to support the development of improvement skills and to facilitate system-wide efforts to improve the quality and efficiency of care
    - Create greater local capacity for improvement through training and leadership development
    - Place greater emphasis on physician leadership training to enhance organizational capability, not just individual capability
    - Identify priority areas for improvement with specific targets and timelines to help align system-wide efforts
    - Continue to focus on the development of electronic clinical information systems; but enhance supports for collecting and using data on current performance even if such data require manual collection
    - Expand current projects to improve patient engagement in the design and improvement of care delivery in order to promote patient-centred care and to engage and align clinicians

2 EXECUTIVE SUMMARY

This paper provides an overview of three transformative healthcare systems and identifies the lessons Canada can learn from these systems. These exemplary regional healthcare systems are analyzed with attention to the strategies they have adopted and investments they have made, the results of these strategies and investments, and the enabling mechanisms that have influenced their success. The three systems, Southcentral Foundation located in Anchorage, Alaska, Jönköping County Council in Sweden, and Intermountain Healthcare, headquartered in Salt Lake City, Utah, are diverse in their size, location and history, but all three have drawn international attention for their achievements. These systems have redesigned care delivery using quality-improvement methods, created more effective delivery systems and improved results. Each system has emphasized different approaches and strategies, but a number of common themes emerged from a comparative analysis of their efforts.

Information on Jönköping County Council and Intermountain Healthcare is largely derived from detailed case study research of these two systems originally undertaken as part of a larger study carried out in 2006-07 and published in 2008 (Baker, MacIntosh-Murray and Porcellato, et al., 2008). This analysis was updated through the review of new materials on these two systems. The case study on Southcentral Foundation, the Alaska Native healthcare system centred in Anchorage, Alaska, was developed using published materials, presentations and related materials as well as notes from and interviews with members of a study tour from Saskatchewan who visited Southcentral Foundation in February 2011.

Jönköping first drew international attention from its participation in the "Pursuing Perfection" project conducted by the Institute for Healthcare Improvement. Don Berwick, then president of IHI, lauded Jönköping's efforts as the best of all the systems involved, noting their efforts in improving many aspects of care. Jönköping had begun its work a decade earlier. Jönköping's leadership developed a quality- and business-planning process and created a more explicit link between strategy, quality and financial planning and system goals. One important output of this effort was the development of a strategy map that helped to align activity across the hospitals and clinics. Jönköping leaders also devised the "Esther Project", an innovative approach to system planning that used the needs of patients to help focus improvements in patient flow. Jönköping County Council established the "Qulturum", a standalone learning centre designed to facilitate group meetings and learning. A large portion of staff acquired new tools and ideas for improving care, and then used these in projects that generated savings and improved outcomes.

Looking for innovative ideas and approaches, the Jönköping leaders sought new ideas elsewhere and created a systematic process for small-scale testing, running pilot projects in a number of different units across the Jönköping system, and then scaling up successful pilots across the system.

Intermountain Healthcare, a non-profit system that provides care to more than 50% of the population of Utah, has long been recognized as a leader in the use of electronic information systems. However, the full value of these systems has only been realized with their linkage to a systematic strategy of analysis of clinical processes and improvement in the design of care delivery at an office, clinic, hospital and regional basis. Led by Brent James, a highly regarded expert in clinical systems improvement, teams from Intermountain apply quality improvement skills to understand work processes and patient needs, and use this knowledge to redesign care to improve outcomes. Moving beyond small-scale projects, the Intermountain leadership created an ambitious program of "clinical integration". More than just an improvement strategy, clinical integration also reorganized the management structure to support clinical processes and aligned key support systems, including accountability mechanisms and incentives to support these clinical process models. An ongoing process of reviewing results, integrating new evidence and

linking this information to decision support systems has created a powerful framework for standardizing clinical practice around the most effective approaches.

While the clinical information system and detailed work on clinical-process design provide the means to ensure clinicians have access to the best knowledge possible, James believes that the key route to success is culture change, and the means for changing culture is education and participation in quality improvement. The Advanced Training Program provides education in quality-improvement theory, measurement and tools, healthcare policy and leadership to all existing and emerging leaders in the system.

Southcentral Foundation is a non-profit healthcare system that provides care for a population of 55,000 Alaska Natives living mostly around Anchorage, Alaska. Over the past decade they have transformed the delivery of care, creating a system recognized for its focus on patients and delivering excellent outcomes. The vision of the Foundation centres on serving the "customer-owners" of the system with a holistic vision of health, grounded in the cultural values of Alaska Natives. Southcentral Foundation developed the "Nuka" model of care, which is based on patient-centred and team-care principles.

Small primary care teams composed of a physician along with nurses, medical assistants, and an administrative assistant were created to provide care to patients. The nurses coordinate patients' care with other providers including specialists, midwives, pharmacists and nutritionists who are assigned to support primary care teams. All members of the care teams work to their full scopes of practice. "Open access" approaches are used to offer same-day access to physicians, and phone and email are used when possible to reduce the numbers of office visits.

Southcentral Foundation pays great attention to the recruitment of staff, including physicians. Southcentral Foundation seeks staff members who share their vision of a customer-driven system. The values and mission of Southcentral Foundation are communicated in staff orientation and a mentoring system supports new staff in learning the vision and principles and developing skills in quality improvement. Every employee at Southcentral Foundation is required to be familiar with basic quality-improvement methods and to apply those methods in their work. The Southcentral Foundation strategies to radically redesign care explicitly engage their "customer-owners" through a variety of initiatives to listen to patients and ensure their influence in the design of the system.

Although the three systems analyzed are different in context, size, and the timing and approach to system improvement, ten common themes emerge. First, each system adopted *quality and safety as a core strategy*. Transformation is a slow process that requires a clear and sustained strategy over time. All of these systems have worked for a decade or longer in developing the capabilities to analyze existing care patterns, improve care delivery and spread new practices across their systems. The need for a long-term perspective requires a deliberate and sustained strategy focused on improving quality and services.

Second, to generate higher performance, all three cases have invested substantially in *building skills and knowledge to support improvement*. Internal training and clear expectations that staff will work on improving care and care systems provide an organizational capacity for continued improvement. Costs for this training and development are recovered through efficiencies gained from improvements in service and care processes.

Each of these systems emphasizes primary care as a key platform for the system. *Robust primary care teams are at the centre of the healthcare system*, ensuring both more effective primary care and more efficient use of other health-system resources. *Engaging patients in their care and in the design of care* creates a focus on improvement for the patient and helps to align staff around care models that start with patient, not provider, needs.

To succeed in their ambitious agendas these systems have emphasized the development of *cultures that support teamwork, continuous improvement and patient engagement*. These cultures are supported by major efforts in staff selection, training and organizational development.

While most quality improvement focuses on specific programs or services, interdependence between different organizations and sectors requires *improvements in transitions of care and improved integration* between parts of the system, ensuring more reliable transfer of information and coordination of care. An emphasis on "mesosystems" linking front-line teams in different settings and structures and relationships that cross boundaries are used to integrate the care experience for patients.

Information plays a critical role in analyzing and improving care. Intermountain possesses one of the most advanced clinical information systems in use anywhere, but both Jönköping and Southcentral Foundation have attended to the need to generate information on care processes and outcomes (using manually collected data where necessary) and to share this information with front-line providers as well as system managers.

Effective learning strategies and methods to test and scale up are critical for ensuring returns on system-improvement efforts. All three systems have invested in ways to share learning across the system, to identify and standardize effective care practices and care systems, and to learn and apply innovative ideas from other settings.

These strategies and approaches require *consistent leadership*, but these systems have also paid attention to ensuring *alignment in their leadership systems* with common goals and metrics to assess performance and guide improvement.

Adopting a long-term strategy for improving care, working to develop talent and create a focus on providing patient-centred care are not always easy in a broader national environment that rewards short-term results. An important part of the success of these systems has come from their ability to identify larger forces that shape their environments and to respond effectively to these forces. Leadership saw the need to not only *provide an enabling environment but also to buffer short-term and external factors that might undermine success*, including regulatory oversight and policy changes.

Replicating these 10 factors in the Canadian system offers major challenges. An analysis of the Canadian context along four dimensions—supportive institutions and context, capacity building and leadership for improvement, priority areas for improvement and patient engagement—provides a format for assessing opportunities and barriers.

Supportive institutions and context. The emergence of quality councils and similar bodies provides important support that will facilitate both local and system-wide improvement. Few regional authorities have provided substantial assistance to local care teams in improving care, so strengthening this capability would also create greater local capacity to analyze and improve care. Even more potent are efforts to link government, regional authorities, quality councils and delivery organizations in coordinated and systematic efforts to improve care, as represented in current efforts to improve care and service delivery in Saskatchewan.

Canadian healthcare organizations could also benefit from an increased attention to capacity building around governance, quality improvement and clinical leadership. A focus on the development of an integrative strategy for improvement that capitalizes on existing governance capacities and on emerging organizations like quality councils offers promise. These efforts could be better focused with the explicit articulation of ambitious targets. These targets would help to drive and energize activities on high-priority performance issues, such as infection control and improved care transitions. Aligning the incentive

structure and methods used to finance delivery organizations or to pay providers achieving quality goals offers the means to facilitate local improvement and create better synergy across providers.

The slow development of the electronic health record and decision support systems has been a major obstacle to improving outcomes, achieving greater efficiencies and facilitating improvements in the integration of care. While electronic clinical information systems will be a major boost to performance, efforts to improve information flow and to generate useful information to support the analysis and improvement of care should proceed even where this information is not electronic.

Capacity building and leadership for improvement. Learning within and across jurisdictions is essential for health-system improvement in Canada, where many promising initiatives remain local and small scale. Increased use of "communities of practice", expanded efforts by quality councils and increased attention to learning from successful innovation offer the means to improve the spread and uptake of better practices, both at a clinical and managerial level.

Increased investments in skills and knowledge to support improvement coupled with systemic approaches to leadership development offer important support to local improvement and system redesign efforts. These efforts need to focus not only on individual quality improvement skills, but also on organizational capacity to analyze and improve, and on leadership development in support of such improvement. Clinical leadership training in Canada has been largely individual rather than focused on organizational development and has not been linked to specific strategic goals. A greater emphasis on leadership training for improvement may have added benefits in improving the capacity of organizations to mobilize physicians, nursing leaders and managers.

Priority areas for system improvement. Most improvement work in Canada has focused on hospitals and acute care. But the greatest leverage may be in other domains, including primary care and in the integration of care and services across sectors. Efforts to develop effective, interprofessional primary care teams need to be expanded, along with an increased emphasis on improved integration across the continuum of care. Improving integration and creating reliable transitions of care are major system challenges; these will require changes in system design and focused improvement efforts across organizations. In addition, more support to develop skills and competencies for interprofessional work and support for the diffusion of best practices and models of care for chronic patients are needed.

Patient engagement for the improvement of care and services. Patient engagement initiatives reflect a growing preoccupation for orienting healthcare systems to better respond to patient needs and expectations. Moreover, patient engagement is increasingly viewed as a potentially strong lever to shift the system toward improvement and to align the perspectives and activities of different practitioners. Current experiments on patient engagement in Canada are mostly small scale; expanding these initiatives across the system may be a prerequisite for attaining greater impact.

Overall, our analysis of the key attributes of three innovative systems that have achieved significant improvement reveals a set of elements on which Canadian healthcare systems can build to develop effective strategies for improvement. Successful large-scale improvement strategies will require increased engagement of physicians and other professionals, and focused investments in building skills and leadership. One of the lessons of these cases is that radical change requires constancy of purpose and investments over time. Canadian healthcare leaders need not wait for the ideal conditions before embarking on an improvement journey; leaders in high performing systems demonstrate the need to initiate actions that support wide-scale improvements.

3 BACKGROUND

3.1 Objectives of the report

Prepared in response to a request from the Canadian Health Services Research Foundation, the goal of this study is to analyse the strategies and mechanisms that enabled transformation in three high-performing healthcare systems and identify the lessons that can be learned for Canadian healthcare systems.

The specific objectives are to:

- Identify and describe specific examples of health system transformation that point to the potential for change in Canada.
- Review each exemplary case in terms of enabling mechanisms (such as policy supports and incentives, institutional structures, leadership qualities, change management approaches, etc.) that were used to spur transformation. Attention should be paid to the interactions among these factors and the timeframe over which significant change occurred.
- Review each case against characteristics found in Canadian healthcare systems and identify opportunities where the potential for transformation could best be facilitated.
- Provide expert commentary on the results of the investigation and any lessons that could be applied to the Canadian context.

3.2 The Canadian context

Canada has 14 provincial and territorial healthcare systems that provide universal access and offer a comprehensive range of publicly funded services within their specific jurisdictions. Recent efforts to improve wait times have resulted in quicker access to care in many locations (CIHI, 2011). But even in this high-priority area, supported by substantial multi-year funding, gains have been slow (Health Council of Canada, 2008). Beyond improving access to care there are many other quality and patient safety issues. For example, failures in diagnostic and radiological tests have resulted in poor care for substantial numbers of patients in Newfoundland, Saskatchewan, Ontario and elsewhere. Hospital-acquired infections remain a major source of adverse events despite increasing efforts to improve infection prevention and control. And falls and medication errors occur at high rates in hospitals, long-term care and home-care settings. While steps are being taken to address these issues, healthcare budgets are constrained and provinces face economic challenges that threaten their ability to maintain current programs, let alone expand and improve them.

Much of the public-policy dialogue on healthcare assumes that Canadian governments face the impossible choice of compromising the principles of medicare, sanctioning the growth of private, for-profit healthcare, or continuing to spend more on healthcare and reduce their capacity to fund other services. Alternative options, such as higher taxes or de-insuring services are politically risky, leaving political leaders with few policy choices beyond limiting the growth of spending while responding to crises of access and quality on an ad-hoc, case-by-case basis. However, all these scenarios are based on the assumption that the current healthcare system is efficient in using available resources and effective in providing high quality of care.

In fact, there is much evidence of waste across the system and wide variations in the quality of care. This evidence suggests that a third path may be open, which would improve the quality and efficiency of healthcare services while limiting growth in healthcare expenditures. This approach builds on the

notion that cost and quality are not necessarily competing objectives. Systematic efforts to improve care can identify waste and improve outcomes, creating better value for Canadians. Most of the Canadian examples of such efforts to improve value are small in scale, and there is scepticism that such efforts are scalable. However, efforts in other parts of the world provide useful exemplars of new models of care and broad strategies to improve performance (Baker, MacIntosh-Murray and Porcellato, 2008; Shih, Davis and Schoenbaum, et al., 2008; Lukas, Holmes, Cohen, et al., 2007; see also CHSRF KAST Report, 2010).

Most discussions of macro trends in healthcare expenditures and health-system performance more broadly, both in Canada and elsewhere, report national or provincial experiences (such as OECD reports on health-system performance). However, these data hide considerable variation in system performance within these larger groupings. For example, comparisons of national expenditures consistently identify large differences between the US and other developed nations, with the US spending two to three times the average cost per capita. Yet within the US there are enormous differences in performance. Wennberg and colleagues (Baicker, Chandra, Skinner et al., 2004; Skinner and Wennberg, 2003) note that the costs of the US Medicare program are much higher in Miami than in Minneapolis, even after adjusting for differences in service use and population. Higher costs do not predict better quality either at a regional level (Fisher, 2003; Fisher, Bynum and Skinner, 2009) or at a hospital level (Yasalitis, 2009). Some regions and hospitals or health systems provide better quality of care at a lower cost than their counterparts. For example, Yasalitis (2009) found no association of clinical process and cost data: some hospitals could achieve exemplary performance for AMI, congestive heart failure and pneumonia patients at lower cost than those with poorer performance.

The analysis of comparative health-system performance provides tantalizing clues about organizations and systems that appear capable of achieving better quality of care at lower costs. But these conclusions are usually derived from tabular presentations of financial measures and aggregated quality process or outcome data. So while this information can identify which systems are high performers, these data alone cannot clearly answer the question of which strategies, investments and systems were responsible for achieving higher performance in these organizations and systems. To do so requires an in-depth examination of the strategies used by high-performing healthcare organizations that have developed and sustained system-wide efforts to improve care and limit costs. By comparing the experiences of several high-performing systems and identifying key factors that are common across these systems as well as factors that vary, we can identify critical elements of system transformation. Such an analysis offers a different lens on the question of how to create a more effective and more sustainable healthcare system than can be gained from an analysis of results alone.

In this report we examine the history and performance of three regional healthcare systems that have achieved and sustained high levels of performance. The three systems, Southcentral Foundation located in Anchorage, Alaska, Jönköping County Council in Sweden and Intermountain Healthcare, headquartered in Salt Lake City, Utah, are diverse in their size, location and history. However, all three systems have redesigned care delivery by using quality-improvement methods that created more effective delivery systems and improved results. Each of these systems has emphasized different approaches and strategies, but a number of common themes emerged from a comparative analysis of their efforts.

4 METHODS AND DATA

Information in this report on Jönköping and Intermountain Healthcare is largely derived from detailed case study research of these two systems undertaken as part of a larger study of five international and two Canadian regional healthcare systems nominated by experts as outperforming their peers. This research, undertaken by a team based at the University of Toronto, was carried out in 2006-07 and published in

2008 (Baker, MacIntosh-Murray and Porcellato, et al., 2008). In preparation of the current manuscript, we identified and reviewed new materials on these two systems and updated our analysis. In addition, on the request of the study's funder, we also developed a case study on Southcentral Foundation, the Alaska Native healthcare system centred in Anchorage, Alaska. We identified published materials, presentations and related materials on Southcentral Foundation, and we were given copies of the notes and debriefing materials collected by leaders and staff from the Saskatchewan Health Quality Council, Saskatchewan Ministry of Health and healthcare organizations in Saskatchewan who visited Southcentral Foundation in February 2011. We interviewed several members of the Saskatchewan group on their experiences in visiting Southcentral Foundation. This provided an opportunity to see the Southcentral Foundation model from the unique perspective of a Canadian jurisdiction with a keen interest in emulating the success of the South Central foundation. We also had access to materials gathered by Dr. Patty O'Connor, assistant professor in the School of Nursing at McGill in connection with her research for her 2009 Harkness fellowship on work redesign in three systems, including Southcentral Foundation.

In addition to these materials we relied on the literature collected and the analysis undertaken by Jean-Louis Denis and colleagues in the preparation of a report to the Canadian Health Services Research Foundation on the transformation of healthcare systems and the lessons learned from other systems (Denis et al., 2011). This broad-reaching review identifies a number of key themes on the reform of healthcare systems and improvements in service delivery across OECD countries. Some of the ideas and themes from the Denis report are integrated into the analysis of the case studies and other data collected for the present report.

5 DESCRIPTIONS OF CASE STUDY SITES

The three systems reviewed in this report are quite different in size, location, scope of services, governance and history. Table 1 provides an overview of key characteristics of these systems as gained from materials available. We then provide an overview of each system and its experiences in transforming care and services.

TABLE 1: CHARACTERISTICS OF THREE TRANSFORMATIVE HEALTHCARE SYSTEMS

HEALTHCARE SYSTEMS	SOUTHCENTRAL FOUNDATION[1]	INTERMOUNTAIN HEALTH CARE[2]	JÖNKÖPING COUNTY COUNCIL[3]
Catchment population	45,000 in the Anchorage area plus 10,000 in more remote villages	Estimates indicate that Intermountain provides some care to as much as 50% of the population of Utah (total population 2.7 million) along with patients in southern Idaho. 20% of Utah residents hold insurance from IHC	330,000
Scope of care	Primary care; joint governance of secondary care	Full range of healthcare services across Utah and southern Idaho	Primary, secondary, tertiary
Staff numbers	1500	32,000	9000
Physician numbers	80 (includes dentists)[4]	800 physicians in the Intermountain Medical Group; others provide care on fee for service	900
Facilities	Primary care clinic in Anchorage; Alaska Native Medical Centre is a 150-bed hospital that provides secondary care	23 hospitals and more than 165 clinics	3 hospitals and community clinics

HEALTHCARE SYSTEMS	SOUTHCENTRAL FOUNDATION[1]	INTERMOUNTAIN HEALTH CARE[2]	JÖNKÖPING COUNTY COUNCIL[3]
Utilization	400,000 outpatient visits per year; each primary care team receives 3500 to 4000 visits per year	129,741 admissions; 39,580 inpatient surgeries; 454,425 ER visits; 31,558 births	To be determined
Governance	Non-profit organization with board of governors	Non-profit organization with board of governors	Elected county council
Regulatory oversight	State and federal regulation. Compliance with Joint Commission is mandated	State and federal regulation. Compliance with Joint Commission is mandated.	National government establishes principles, standards and policies to guide local care delivery; County councils oversee healthcare delivery and regulate prices and services by private providers
Budget	$200 million	$4.5 billion US (2010); $3.4 billion in patient services	$1.4 billion U.S.
Key revenue sources	45% comes from an Indian Health Service Block Grant, 45% from Medicare, Medicaid, and private insurance. The remaining 10%comes from contracts, philanthropy, grants, and research.	Medicare, Medicaid, Insurance	Taxation at county level provides 70% of budget; private health insurance provides only 1% of funding

1 Data from annual report and presentations by Southcentral Foundation staff.

2 Intermountain Health Care. Annual Report to the Community 2010. http://intermountainhealthcare.org/about/overview/annualreport2010/Pages/home.aspx. Accessed 15 June 2010. Baker, MacIntosh Murray and Porcellato, et al. (2008).

3 Derived from annual reports and analysis in Baker, MacIntosh-Murray and Portellato, et. al. 2008.

4 Klein, S and McCarthy, D. Care. Southcentral Foundation Facts. CareOregon: Transforming the role of Medicaid Health Plan from Payer to Partner. Commonwealth Foundation, July 2010.

5.1 Jönköping County Council, Sweden

Jönköping County Council in southern Sweden governs health services for a population of about 330,000. For more than 15 years the leadership at Jönköping has pursued an ambitious agenda of improving quality of care while limiting increases in the costs of that care. The vision of the Jönköping County Council is “a good life in an attractive county” reflecting the goals of a holistic vision focused on quality of life, not just the delivery of care. (Ovretveit and Staines, 2007).

Jönköping first drew international attention from its participation in the “Pursuing Perfection” project, an eight year demonstration project sponsored by the Robert Wood Johnson Foundation and directed by the Institute for Healthcare Improvement. Pursuing Perfection involved 7 US health systems along with a number of international health systems in an ambitious multi-year program to create system transformation, improving care across the continuum. Each of the US systems received a large grant from the foundation, while the international systems (from England, and the Netherlands as well as Jönköping) were self-funded. Coached by international experts in quality, these health systems worked to identify, implement and sustain innovations and improvements, engaging front-line clinicians and leaders. Jönköping focused on systems thinking across the 3 hospitals and 34 primary care centres in their county and achieved improvements in virtually all sites, including patient flow, asthma care, elder care, children’s services, prevention of influenza and patient safety. This work streamlined care processes across the system, producing substantial savings as well as improvements in care (Baker, MacIntosh-Murray and Porcellato, et al., 2008: pp 123-4). Donald Berwick, then the CEO of IHI, lauded Jönköping’s efforts, identifying them as leaders among this highly regarded set of healthcare systems in Pursuing Perfection

(Berwick, Kabcenell and Nolan, 2005). Later analysis in Sweden suggested that substantial savings would be possible across Sweden if the strategies and methods identified and implemented in Jönköping were spread among all Swedish counties (Cederqvist, 2005).

Stable leadership at the senior executive level and the county council (which serves as the governance body for the health system) has enabled Jönköping to maintain a constancy of purpose and strategic vision (Andersson-Gare and Neuhauser, 2007). Sven-Olof Karlsson who was the CEO for nearly 20 years (until 2008) forged a strong partnership with Mats Bojestig (the senior medical leader) and Gören Henriks (the organizational learning and quality leader) in developing plans to accelerate performance in Jönköping. Together Karlsson, Bojestig and Henriks with other Jönköping leaders developed clearly articulated goals and a training and development infrastructure that enabled clinicians and managers across the system to work on a wide-ranging suite of improvement efforts.

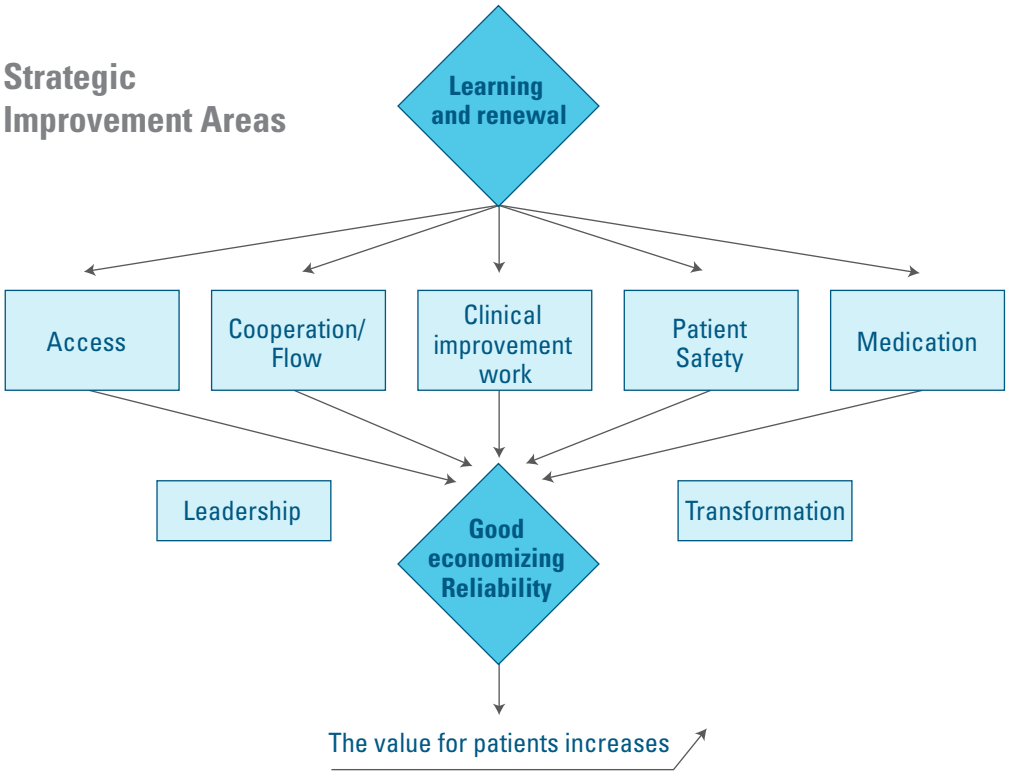
The Jönköping leadership began their work in quality in the 1990s by learning and applying themselves to meeting the standards for the Swedish equivalent of the Malcolm Baldrige National quality award in the U.S. They studied their results, analyzed local systems and identified ways to improve performance and enhance their improvement capabilities. In 1997, the leadership team began to attend IHI meetings in the US, harvesting ideas and methods that could be implemented back in Sweden to improve care. Karlsson and the other leaders saw the power of the improvement methods and the impact of action oriented approaches such as the Model for Improvement (Langley, Moen and Nolan, et al., 1996). They used other tools too, including the Balanced Scorecard to improve the use of information on system performance and the impact of changes they were making to improve that performance.

Jönköping's senior team realized that new tools and analysis alone would not move the system unless they could integrate them into the system; first by creating a common vision of what they were trying to achieve and communicating to staff about the importance of quality tools and methods in achieving this vision. Jönköping's leadership developed a quality and business planning process among senior leaders they named "Big Group Healthcare", bringing together clinical and system leaders from across the county to report on their progress and plan new initiatives. In these meetings leaders and managers shared ideas, developed plans and created a more explicit linkage between strategy, quality and financial planning and system goals. One important output of this effort was the development of a strategy map, graphically represented in what became known as the "diamond picture" that identified the key improvement areas for Jönköping and the drivers of improvement (Andersson-Gäre and Neuhauser, 2007) See Figure 1.

The power of strategic alignment and a focus on quality improvement as the means to achieve improved performance was accelerated by the emphasis on value for patients, and, in particular, the use of "Esther" as a means to bring clinicians and managers to a common understanding of the improvements needed to transform the system. Esther is a persona invented to create a dialogue about reducing fragmentation and waste in care. Rather than engaging in continual negotiations over roles and responsibilities, clinicians and leaders in the Jönköping system use the image of Esther, an 88 year old woman who lives alone in the community, has several chronic conditions and has occasional acute care needs, to facilitate the discussions among hospital and community based caregivers. "How can we improve the system to meet the needs of Esther?" is the question that moves planning discussions to a system- and patient-focused level. The "Esther project" focused on improving patient flow and realigning responsibilities across the system, improving coordination and communication among providers (Bodenheimer, Bojestig and Henriks, 2007). Examples of changes that resulted include a redesigned intake and transfer process, open access scheduling, team-based telephone consultation, integrated documentation and improved education of patients in self-management skills. The Esther project yielded substantial results, including a 20% reduction in hospital admissions, a

redeployment of resources to the community, and a 30% decrease in the number of hospital days for heart failure patients. (Baker, MacIntosh-Murray and Porcellato, et al., Pp. 123; Ovretveit and Staines, 2007) More recently Jönköping County Council has developed "Esther coaches" who work with their staff colleagues in ensuring that services meet the needs of patients (Godfrey, 2010). `

FIGURE 1. JÖNKÖPING COUNTY COUNCIL'S DIAMOND PICTURE



Sven-Olof Karlsson, the former CEO, told staff across the Jönköping system that they had two jobs: "to do what they do (i.e., manage, provide care) and to improve what they do." (Baker, MacIntosh-Murray and Porcellato, et al., p. 132; Karlsson, 2009) Jönköping created an ambitious staff development agenda, teaching quality improvement skills such as the Model for Improvement to many staff who then applied these tools to improvement projects. In the early years of the Jönköping transformation, the Office for Learning and Improvement was situated in one of the hospitals, but in 1999 the Jönköping County Council established the "Qulturum", a standalone learning centre designed to facilitate group meetings and learning. Staff from across the county meet at the Qulturum, engage in projects and participate in learning. Unlike many systems that focus on projects alone, Henriks and other leaders have always sought to build knowledge for staff about new ideas and the lessons that can be derived from the teachings of Deming and other quality pioneers. Many prominent quality thinkers, including Don Berwick, Tom Nolan and Paul Batalden, were invited to spend time at the Qulturum to meet with the Jönköping leaders and staff. Qulturum is thus more than a physical place for project meetings. Rather, it embodies the strategies for learning and improvement that lie at the heart of the Jönköping efforts to transform care (Bodenheimer, Bojestig and Henriks, 2007) and to contribute to an organizational culture that values learning and improvement (Ovretveit and Staines, 2007). As of 2006 roughly 4,000 of the 9,000 staff in the Jönköping system had received quality improvement training through the Qulturum. The savings

realized by the ongoing improvements in the delivery of care paid for these large-scale training and development efforts at Qulturum.

Part of the explicit strategy to improve care in Jönköping was an ongoing effort to seek out new ideas from elsewhere and adapt them to meet local needs. At a conference in 2004, Qulturum staff learned about a UK initiative that taught patients quality improvement techniques as a means to engage them in self-management of chronic conditions and in community development. Staff adapted this idea, teaching seniors how to carry out small tests of change in their diet and lifestyle, and providing an opportunity for shared learning among participants. This initiative, which they called "Passion for Life", helped to strengthen the focus on engaging patients in their care. With the help of the national agency supporting Swedish municipalities and regions, this effort has begun to spread across Sweden. Henriks and other Qulturum staff have also emphasized the idea of "microsystems", building on the work of Nelson, Batalden and Godfrey (2008) to improve the effectiveness of front-line teams. In order to provide a systematic approach to managing the introduction and spread of new ideas and tools Henriks and other leaders have introduced a three stage process for small scale testing, piloting in a number of different units across the Jönköping system, and then scaling up to spread ideas that demonstrate their value more broadly across the system. This schema for testing and scaling up is itself adapted from a similar approach developed by the Institute for Innovation and Improvement in the UK.

Like many other systems that have created innovative approaches to engaging staff and improving care, the Jönköping leaders have recognized that their own efforts in developing staff capabilities are insufficient if new recruits continue to need orientation in these methods. Thus, Jönköping has launched an ambitious effort to embed improvement thinking into clinical education so that new clinicians come equipped to participate in the improvement work of the system.

5.2 Intermountain Healthcare

Intermountain Healthcare (IHC) is a non-profit healthcare system serving patients and communities in the American states of Utah and Idaho. The system employs more than 32,000 staff in 23 hospitals and over 150 out-patient clinics, counseling centres, home health agencies and more than 100 medical group practices and provides care to more than 50% of the population of Utah. IHC has over 3,200 affiliated physicians, including one-third who are employed by the IHC system. Intermountain Healthcare has been recognized as one of the top integrated health systems in the US, winning awards for quality of care, financial performance and use of information technology. LDS Hospital, the flagship hospital in Salt Lake City, has been repeatedly identified as one of America's best hospitals and has also been awarded Magnet hospital status by the American Nurses Association.

IHC began as a loose confederation of hospitals in the 1970s when the Church of the Latter Day Saints transferred ownership of these organizations to the new entity. Other hospitals asked to join the new non-profit secular organization, and new hospitals were constructed to expand the system to other communities. By 1982 IHC began to offer services outside of the hospitals, laying the foundation for a fully integrated healthcare system. IHC was reorganized into a regional system with centralized management and one parent board of trustees in 1986 with an explicit vision that emphasized the partnership between physicians, hospitals, clinics and the health plan. (Baker, MacIntosh-Murray and Porcellato, et al., 2008). To help advance this integration, IHC worked to incorporate physicians more closely into the management and operations of the system, creating a medical group of physicians who

were employees of IHC and inviting members of this group to play important roles in IHC management (Intermountain Healthcare 2005a).

Intermountain has been a pioneer in the application of modern quality methods to the analysis and improvement of healthcare. Brent James, a pediatric surgeon with advanced statistical training, joined IHC in 1986 and has led the systematic development of the quality research and improvement work at IHC. James' interest in variation in clinical practice linked with his application of Deming's insights on strategies for improving work led to numerous studies of care at IHC (James, 1989; James 2001b). In particular, James embraced Deming's insight about the foundational importance of understanding work processes and customer needs and using this knowledge to improve outcomes. James created clinical oversight teams composed of nurses and physicians to examine data, map clinical processes, identify causes of variation and test improvements. One early success was a project on post-operative wound infections using outcome and process data. The team identified variations in the pre-operative delivery of prophylactic antibiotics that contributed to varying rates in wound infections for surgeons across the IHC system. Standardization of medication orders and the timing of antibiotic administration led to a 50% reduction in infection rates along with decreases in associated costs (Classen 1992; Baker, MacIntosh-Murray and Porcellato, et al., 2008). James built a team of statistical consultants and quality support staff to work with front-line clinicians; these quality measurement support personnel become the core staff of the Institute for Health Care Delivery Research at Intermountain, created in 1990.

Detailed analysis of clinical practice and outcomes was greatly assisted by Intermountain Healthcare`s development of an integrated electronic medical record. IHC has been a pioneer in medical informatics and its EMR was one of the first hospital clinical information systems. The IHC clinical informatics system, named HELP, has been in operation for more than 40 years and is now linked to an Enterprise Data Warehouse that includes a clinical data repository, health data dictionary and decision support systems along with linkages to administrative data (Nanus and Clayton, 2002). This information system provides IHC clinicians with the ability to examine their patient records individually as they assess and treat patients, to compare their results with those of their colleagues and to track the impact of efforts to improve care over time. IHC clinicians can view this patient data in their offices or on workstations in hospital patient rooms and clinics. On a system level the IHC clinical information system links clinical practice data with clinical and financial outcomes providing a close to real time view of system performance. To gain clinician support for the EMR, James conducted a number of studies examining the impact of the EMR on clinical practice, demonstrating positive benefits in contributing to more effective clinical decision-making while reducing waste and improving reimbursement (Baker, MacIntosh-Murray and Porcellato, et al., 2008).

By the mid 1990s, Intermountain Healthcare had made substantial progress in developing its capabilities to analyze and improve systems of care. A sizable cohort of clinicians had learned quality improvement skills. Management structures were aligned with major clinical programs and physicians were given important roles in managing this system. The electronic clinical information system and decision support capabilities provided clinicians with evidence-based guidance on treatment decisions and assessments of practice patterns across clinics and hospitals.

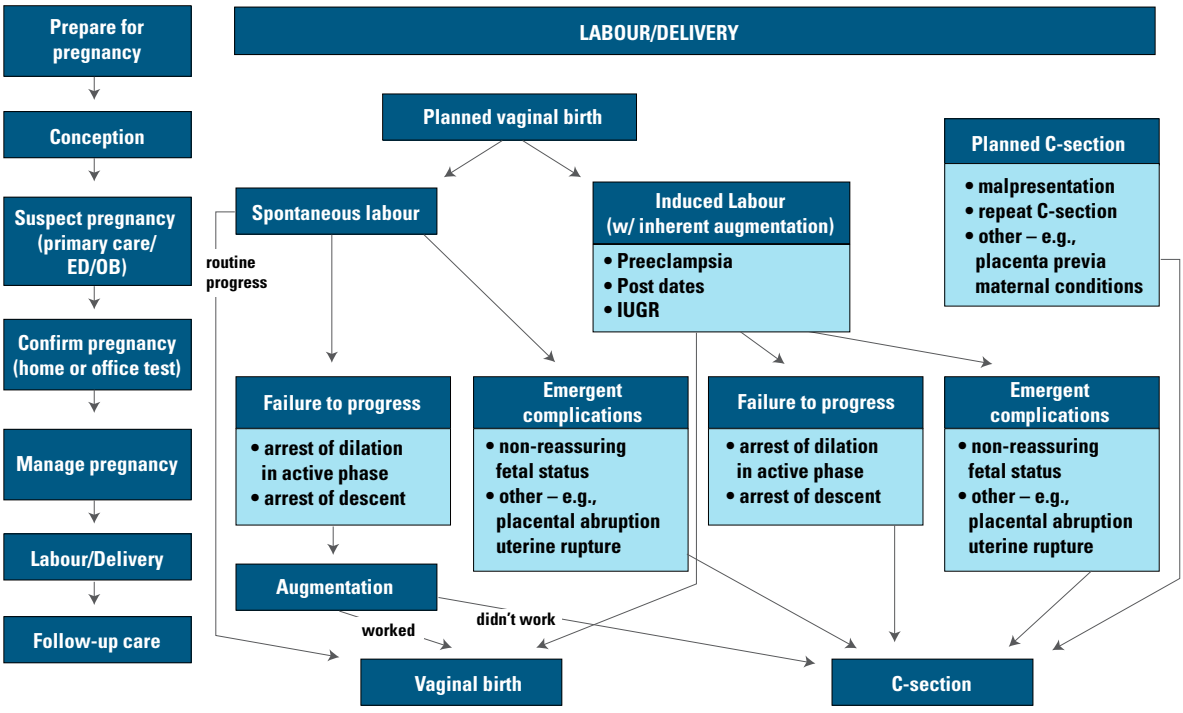
A new CEO, Bill Nelson, was appointed in 1995. Nelson was aware of the substantial achievements of Intermountain Healthcare in assessing and improving quality of care, but he also noted that the selection of priorities for improvement was often based on internal politics rather than analysis. Nelson believed that a more systematic improvement strategy could improve the return on this investment and achieve a broader impact on Intermountain's operation. Nelson asked David Burton, a senior clinical leader and

strategic planner to work with Brent James to create a new strategic quality plan that would prioritize opportunities in light of system needs rather than local advocacy, making improvement a system imperative rather than an individual responsibility or program concern.

Burton and James responded to Nelson's request by creating a clinical integration strategy that identified key program areas whose costs and performance suggested they were system wide priorities for improvement efforts. Once selected they organized teams to develop clinical process models that offered detailed understanding of how care was delivered at Intermountain and where improvements could be focused. More than just an improvement strategy, clinical integration also reorganized the management structure to support clinical processes and aligned key support systems including accountability mechanisms and incentives to support the clinical process models. This strategy involved several stages. In the first phase, Burton and James prioritized IHC clinical programs in terms of patient volumes, costs, clinical variation and community needs. From this exercise they identified nine clinical programs as priorities, of which they selected two, Cardiovascular and the Women's and Newborn programs for detailed assessment and improvement.

In the second phase, Burton and James recruited clinicians to create "clinical development teams" of experts and front-line clinicians. These teams mapped key processes, incorporating evidence-based practice guidelines and protocols. Each development team focused on a major clinical process and supportive care and administrative processes in the selected program areas. The teams produced a high level map of each clinical program along with more detailed process flow diagrams. (See Figure 2)

FIGURE 2: HIGH-LEVEL CLINICAL PROCESS MODEL—LABOUR AND DELIVERY



Source: James (2001c).
Used by permission.

Members of these development teams are charged with staying up-to-date with the best available evidence and integrating feedback from IHC clinicians on their clinical experiences so that these clinical process models reflected current learning. Development teams hold regional clinical learning days to share this learning and to seek feedback from front-line clinicians. These process models are then incorporated into the electronic decision support systems, codifying the knowledge and spreading best practice through the system. Clinicians using the decision support system are provided with guidance in the selection of appropriate therapies; but the system is also designed to collect feedback from clinicians when the recommended approach seems inappropriate for a patient. This feedback is reviewed on a regular basis and used to amend the decision support options. James identifies the development of these clinical process models and their integration into decision support systems as a key step in standardizing practice around evidence and experience.

The development of a sophisticated electronic clinical information system enabled the clinical practice analysis carried out in James' institute to be more effective, while the linkage of quality improvement knowledge to data on practice helped to identify areas of improvement and the impact of selected changes. James notes that "in the long term, the primary purpose of an electronic medical record is protocol support...we were not able to show a return on investment for our electronic medical record system until we combined them with our clinical improvement [efforts]." (James 2001c).

Regional management structures are aligned with the clinical processes (James, 2001c). Within each clinical program there are regional management teams including a part time medical director and nurse administrator. The medical director's role is to engage front-line clinicians, identify issues in the implementation of clinical process management and hold clinical teams accountable for their performance against system goals. Nurse administrators oversee operations and manage the rapid cycle improvement efforts that adapt the clinical process models to local settings. While most organizations establish a management structure that reflects financial flows, Intermountain has designed a structure based on clinical processes.

Much of the clinical protocol development has taken place in Intermountain hospitals; but clinical redesign efforts have also focused on primary care. IHC primary care clinics have tested a model for chronic care management in which nursing managers with information technology tools work with patients, physicians and other staff to monitor care needs, assist patients with self care, and also identify and address the social, financial and cognitive barriers to effective care. Results from a randomized control trial of this program found significant decreases in mortality for patients who received the intervention; and reductions in hospital use for some groups (Dorr, 2008). These results have encouraged the expansion of the program into other practices (Shortell, Gillies and Wu, 2010).

While the clinical information system and detailed work on clinical process design provide the means to ensure clinicians have access to the best knowledge possible in providing care, James believes that the key route to success is changing culture, and the means for changing culture is through education and participation in quality improvement. James, with other leaders at IHC, developed a program for IHC clinical staff and leaders known as the Advanced Training Program (ATP). Offered in two formats (the full 20-day ATP and the 11-day "mini-ATP" primarily oriented to clinicians), the ATP provides education in quality improvement theory, measurement and tools, healthcare policy and leadership. James devotes a large portion of this time teaching in the program and has recruited a stellar faculty from within and outside Intermountain Healthcare. The ATP program requires participants to apply their learning to an improvement project in their own setting, and links course participants with Institute staff members who provide expert advice and coaching support between learning sessions. Since 1991, graduation from the full ATP has been a requirement for all IHC senior managers, including between 30 to 40 physician

leaders. The projects undertaken by ATP participants have also had important benefits in improving quality and reducing costs while the shared learning among senior leaders and senior clinicians has created a common language and tools for assessing performance and engaging staff.

5.3 Southcentral Foundation, Alaska

Southcentral Foundation in Alaska is a non-profit healthcare system that governs health services for an Alaska Native population of about 55,000. Of these 55,000 people, 45,000 live in the Anchorage area and 10,000 live in 55 remote villages accessible only by plane. Southcentral Foundation was created in 1982 and since then it has progressively assumed the responsibility of delivering care and services for Alaska Natives. Beginning in the 1990s, the Southcentral and Alaska Native leadership have pursued an ambitious agenda of improving quality of care while limiting increases in the costs of that care. In 1999, the Southcentral Foundation fully assumed the responsibility of the primary care system for the whole area and now has joint ownership and co-management of inpatient facilities with the Alaska Tribal Health Consortium. The budget of the Southcentral Foundation grew from $3 million to $200 million (US) by January 2011. This progression was associated with their growing responsibility in the delivery of care and services. About 1400 people work for Southcentral Foundation of which 53% are Alaskan Natives or American Indians. The Southcentral Foundation provides an interesting case of health system transformation because of its commitment to system transformation to serve the needs of its community. Southcentral Foundation has demonstrated continual improvement in outcomes despite a 7% yearly increase in population and only a 2% increase in resources allocated to meet these needs.

Ten years ago Southcentral Foundation, like many other systems, had long waiting lists, impersonal care, unhappy patients and dissatisfied staff (Gottlieb, Sylvester and Eby, 2008). Over the past decade, they have transformed the delivery of care, creating a system recognized for its focus on patients and delivering excellent outcomes. The transformation started with a shift from a focus on activity to an emphasis on relationships with their patients (Gottlieb, Sylvester and Eby, 2008). The vision of the Foundation centres on serving the "customer-owners" of the system with a holistic vision of health, grounded in the cultural values of Alaska Natives. The Southcentral Foundation leaders observe that current models of organizing health systems fail because they are based on an inappropriate philosophy, a poor use of the workforce and an inefficient design (Eby and Galbreath, 2010). The Southcentral Foundation system developed around the assumption that it is the "customer-owners" that should be in control of health outcomes for a majority of conditions. According to the Southcentral Foundation philosophy, a system that strives for improved health (and not just care in response to disease) should change the relationship between its customers and the system. Southcentral Foundation developed the Nuka model that reflects the Alaska Native population's vision of a high-performing system. The Nuka model is based on these principles: 1) customers drive everything (patient-centred), 2) a healthcare team that people know and trust, 3) customers should face no barriers in seeking care, 4) staff members and supporting facilities are vital to success (Eby, 2009). This vision was the driving force for a complete redesign of the system to better respond to population needs. Numerous strategies have been developed to ensure the voice of the customers is integral to the design of care and services. In addition, the system is now totally governed by the Alaska Native peoples.

To transform service delivery, Southcentral Foundation leaders recognized that they had to create more responsive healthcare teams that could establish long-term relationships with patients, provide primary care services and coordinate other care needs. Small primary care teams are composed of a physician (family physician, general internist or pediatrician) along with nurses, medical assistants, and an administrative assistant. The nurses coordinate patients' care with other providers including specialists,

midwives, pharmacists and nutritionists who are assigned to support primary care teams. Same day access to physicians for patients is standard practice. Patients can call and arrange to see their primary care providers on the same day as long as they call by 4:00 pm and arrive by 4:30. This open access system works by ensuring that 70 to 80% of appointment slots are open at the start of each day. Teams try to address patient needs on the phone and schedule visits for patients who need to be seen in the clinic. The teams are more efficient since team members work in parallel rather than having the physician act as the gatekeeper to all services. This approach reduces delays in accessing care and speeds referrals to other team members. Phone and email are used when possible to reduce the numbers of office visits, although the system does not compensate providers for these interactions.

Team members communicate frequently through regular huddles and team meetings to exchange information. In addition teams are given monthly reports that detail their performance on clinical indicators with comparisons to clinic averages and benchmark scores.

Given the importance of effective team function in providing care, Southcentral Foundation pays great attention to the recruitment of staff including physicians. Southcentral Foundation seeks staff members who share their vision of a customer-driven system. The values and mission of Southcentral Foundation are communicated in staff orientation and a mentoring system supports new staff in learning the vision and principles that drive the Southcentral Foundation system. The Southcentral Foundation's leadership views relationships between staff and with patients as a core element of their improvement strategies. Efficiency drives the utilization of workforce across the system. "All members of the team must work at the top of their licenses, with doctors giving work to nurses, nurses giving work to administrative support, and so on"(Gottlieb, Sylvester and Eby, 2008). Physicians who fail to delegate sufficiently to other team members and other health professionals do not receive increased compensation for their longer hours of work. The salaries of physicians are based on team performance and not on how many visits they provide per day. Physician contracts are reviewed annually and they are eligible for merit increases.

Every employee at Southcentral Foundation is required to be familiar with basic quality improvement methods and to apply those methods in their work. Southcentral Foundation staff believe that concentrating quality improvement work on the efforts of a few people reduces the capability of the system to achieve the objective of whole system transformation. Thus investments are made and support is provided for enterprise wide workforce development to improve care. The first week of orientation of any new staff is on quality improvement methodology supported by a Center for Workforce Development created by the Southcentral Foundation in 2001 at the Alaska Native Medical Campus. Inspired by the IHI approach to quality improvement, improvement teams have been formed across the system to identify and test changes using the PDSA model of improvement to address performance gaps.

Southcentral Foundation has received numerous awards in recognition of their improvement efforts and success. In 2010, they received the Patient Centered Medical Home™ recognition from the National Committee on Quality Assurance (NCQA). This award identified the achievements of Southcentral Foundation in creating a strong primary care system that engages patients and offers a broad range of preventative services and treatment. Indeed primary healthcare teams at Southcentral Foundation represent the fundamental units for delivering care and services and coordinating care with specialists and other providers. Southcentral Foundation operates the Alaska Native Hospital, the only Level II trauma centre in Alaska, jointly with the Alaska Native Health Consortium. Overall, the Southcentral Foundation system has achieved significant improvements in a number of key areas including same-day access to care which has led to a 50% decrease in costly emergency room and urgent care visits; a decrease in specialty care by about 65%; a decrease in primary care visits by 20%; and a decrease in hospital admissions by 53% (Eby, 2009). A recent presentation

by Southcentral Foundation leaders suggests that these cost-saving achievements have all been accompanied by improved health outcomes (including decreases in c-section rates, improved childhood immunization rates and other measures). Patient satisfaction with services is high (91%) while staff turnover is less than 12% annually. (Eby & Ross, 2008; Gottlieb, Sylvester & Eby, 2008)

Care redesign underlines the achievements of Southcentral Foundation with a focus on providing primary care that meets the needs of patients. A visiting group from CareOregon identified five key principles in the care offered at Southcentral Foundation. These include:

1. Patient driven care: Involving patients in the design and evaluation of care that takes into account patients` values, preferences and needs.
2. Team-based care: Using teams to make care more efficient and ensure that all team members are practicing to the highest level of their credentials.
3. Proactive Panel Health Improvement: Assigning a panel of patients to a team of providers that proactively determines and meets preventive care needs.
4. Integrated Behavioural Health: Incorporating a behavioural health practitioner into the team to identify barriers to self-care and screen for and treat mood and behavioural issues.
5. Barrier-Free Access: Removing barriers that stand in the way of prompt and appropriate care, such as language, culture, attitude, time and place. (Klein and McCarthy, 2010).

Southcentral Foundation leaders worked with their community on the development of a radical vision for the redesign of the system. They articulated this vision around the primacy of primary care and customer's views of their health system. Their strategic plan was developed with clear links to budget plans. Dissemination of the plan across the organization is ensured through various mechanisms including annual performance appraisal. Leaders also use real stories of patients to illustrate the difference made by a customer driven system to the care provided to members of the community. Improvement advisors support the four main committees that work on corporate wide objectives: operations, quality assurance, process improvement, clinical quality improvement.

The Southcentral Foundation leadership strategies to radically redesign their system adhere to the idea of a "patient-centred system" but they have advanced this principle further by designing a system that is customer-driven. They developed a wide range of strategies to listen to customers and ensure their influence in the design of the system. For example, they rely on Tribal Advisory groups, the Head Start Advisory, the Traditional Healing Elders' Council, customer service representatives, surveys, focus groups, public forums and industry standard written surveys. They used other tools too, including the balanced scorecard to improve the use of information related to system performance and the impact of changes they were making to improve that performance.

Stable leadership at the senior executive level (Katherine Gottlieb has been President and CEO since 1999) and in the native council (which serves as the governance body for the health system) has enabled Southcentral Foundation to establish and maintain focus on their strategic vision and goals. The devolution of governance of the system to the local community has also reinforced the vision and its focus on population needs.

Overall, the story of the Southcentral Foundation health system in Alaska illustrates how a system can be radically redesigned to respond to the needs and expectations of its population. Southcentral Foundation leadership and their community of "customer-owners" developed and continue to adhere to an ambitious

and critical philosophy that departs from the usual way of doing business. Their story also reveals the importance of creating a strong alignment among the different components of the system (governance, planning, human resources, and finance) to move the system away from its usual operating principles. The transformation journey of Southcentral Foundation has achieved significant improvements in performance. Still important health and social problems need to be addressed in the years to come. For example, the question of domestic violence, child abuse and neglect, and sexual assault are dramatic problems in their communities and Southcentral Foundation will have to deal more directly with these problems. Southcentral Foundation has linked to the Family Wellness Warriors Initiative (Gottlieb, 2007) to help address issues of domestic violence, abuse and neglect in the Alaska Native community. Employees at Southcentral Foundation are undergoing training and learning tools to help improve interactions and relationships with patients. These efforts suggest that Southcentral Foundation is seeking new ways to deepen their relationships with their patients and the communities they serve, identifying broader public health issues that underlie the medical problems presented in their clinics. It will be interesting to follow the progress that Southcentral Foundation will make in addressing these problems and the strategies they will use to support the creation of a safer environment within the community.

6 ANALYSIS: TEN CRITICAL THEMES UNDERLYING TRANSFORMATION

Despite the differences in location and size of these three systems, and the timing and emphasis of their strategic approaches to improving care, a number of common themes emerge. In this section we examine each of these themes in terms of the three systems described above.

6.1 Quality and system improvement as a core strategy

Transformation is a slow process that requires a clear and sustained strategy over time. Each of the systems described above has worked for a decade or longer in developing the capabilities to analyze existing care patterns, improve care delivery and spread new practices across their systems. The need for a long-term perspective requires a deliberate and sustained strategy focused on improving quality and services. Jönköping County Council in Sweden, for example, has focused on achieving strong financial performance combined with a strategic emphasis on quality improvement for more than 15 years. In so doing, it has sought to put patients and clients first, using the persona of Esther to explore needs, improve care and overcome conflicts between providers. Comparisons of the performance of county councils in Sweden on a range of measures show that Jönköping comes out towards the top of the range on most measures (Cedarqvist, 2005). Its achievements have been recognised in a number of studies (Ovretveit and Staines, 2007).

Intermountain Healthcare has emerged as one of the preeminent healthcare systems in the US and has been recognized by President Barack Obama and others as a model in providing high quality healthcare at lower than average costs (Leonhardt, 2009). Intermountain leaders have helped the system to realize its mission of striving for “excellence in the provision of healthcare services to communities in the Intermountain region.” Sustained efforts to analyze and improve care have yielded groundbreaking results in many areas.

Southcentral Foundation has focused on the delivery of care and services that respond to the expectations and needs of the Alaska Native people along with a constant preoccupation with financial discipline. The Southcentral Foundation leaders led the redesign of the system to focus on team-based primary care, emphasizing the need for its “customer-owners” to be in control of the care they receive.

In each of the three cases, we can observe a journey toward improvement sustained over a long period of time. Such incremental progress is combined with major shifts in system design. For example, Southcentral Foundation's focus on primary care illustrates the importance of recognizing opportunities and acting to realize a new vision and mission. The Southcentral Foundation leadership became convinced that the usual way of operating the system—which was the basis for their prior approach—was based on a wrong philosophy, an incorrect design of care and an ineffective use of human resources.

6.2 Organizational capacities and skills to support performance improvement

In each of the three systems, we observe an alignment of organizational structure and capabilities with improvement objectives. For example, Intermountain developed a structure in the mid-nineties where development teams at the organizational/clinical levels and program management teams at the regional level played a key role in driving the improvement strategy. The implementation of primary care teams at Southcentral Foundation and their focus on forging relationships with patients and delivering and coordinating care is at the core of their improvement strategy. The Southcentral Foundation implementation of a Development Center for human resources also illustrates the need to support staff in their improvement efforts.

In term of skills development, all three cases demonstrate a significant investment in developing skills and capabilities for improvement. A concrete expression of this investment is Qulturum—'a meeting place for quality and culture'—that serves as a centre for learning and quality improvement in Jönköping. Almost half of the 9,000 staff employed in the county council have received quality improvement training in Qulturum. Much of the work that is done in Jönköping draws inspiration from links with international leaders in quality improvement like Paul Batalden and Don Berwick. At Intermountain Healthcare, the Advanced Training Program has become a necessary component of leadership training and advancement.

Each of the three cases suggests that significant improvement requires the management and implementation of multiple changes across the system. Efforts are made to renew the organization of work, to enhance skills among staff and to change the vision that drives the delivery of care and services. Strategies to engage patients or customers through various mechanisms (using a virtual patient in Jönköping and stories of patients at Southcentral Foundation) play an important role in shifting the mindset of providers for improvement. Skills development for staff incorporates improvement techniques and sharing of a common vision that will support improvement efforts. System redesign may also incorporate the implementation of new incentives for providers. In the case of Southcentral Foundation, physicians are paid under a new incentive scheme that values work in interprofessional teams. Economic incentives are however only one piece of the improvement strategy and efforts to develop common vision, clear improvement objectives and the role of customer-owners in driving the system also appear critical in system redesign. Economic incentives may play an enabling role but do not appear sufficient to provide improvement gains in the long run. While incentives help clinicians to focus on key system goals, all three systems have emphasized the need to engage clinicians and develop their skills in analyzing their care and improving care delivery rather than relying on incentives alone. (Burns and Muller arrive at a similar conclusion in their analysis of evidence on the impact of economic factors on clinical integration of physicians with health systems. (Burns and Muller, 2008))

6.3 Robust primary care teams at the centre of the delivery system

Many health system commentaries identify the development of a more effective primary care system as a vital step in creating a better performing healthcare system overall (Nutting, et al., 2011; Nasmith, Ballem Baxter, et al., 2010; Health Council of Canada, 2009). All three of these case studies illustrate the importance of a strong, well-integrated primary care system to the performance of the larger system. For Southcentral Foundation, the transformation of their primary care system was the critical change that enables the development of a more responsive and more effective healthcare system. Primary care teams at Southcentral Foundation have incorporated a number of innovative design elements that support team-based care and patient engagement. For example, the physical design at the Anchorage Native Primary Care Center creates an environment that encourages interaction between team members, minimizing the need for formal meetings. "Talking rooms" are provided that encourage conversations and relationships between patients and staff. Nurse case managers assume a pivotal role in coordinating care; and team members work to their full scope of practice with a division of labour that supports the effective operation of the team. Southcentral has also been effective in identifying and implementing system changes that improve the responsiveness of care. Their implementation of open access scheduling (Murray and Tantau, 1998), for example, enables primary care teams to see patients on a same day basis, and their use of email and telephone also serves to deepen their interactions with patients. Improving relationships with patients helps to build trust and create an environment where more threatening concerns such as domestic violence, abuse and neglect can be raised and where areas of personal choice such as eating habits, exercise and substance abuse can be addressed (Eby, 2007).

In Jönköping there has been an emphasis on improving system coordination and strengthening primary care to ensure that patients receive the right care. Jönköping embraced the idea of "microsystems" (Nelson, Batalden and Godfrey, 2007) as a core unit for improvement both in primary care and hospital-based practice. Jönköping reduced the number of hospitalizations for pediatric asthma from 22 to 7 per 10,000. Jönköping's rate of influenza vaccination also increased by 30% (over four years), translating into substantial reductions in acute care hospital admission, and morbidity and mortality for the elderly population.

Primary care is one of the priority programs at Intermountain Healthcare and has been a focus in clinical protocol development where a team of clinical and process experts generate care process models informed by evidence of best practice and feedback from clinical colleagues. The Primary Care Clinical Program includes a team focused on diabetes mellitus composed of frontline primary care physicians and nurses along with diabetologists. Together the team reviews current practices and new research findings, and helps to integrate the care process model into the decision support system. (James and Lazar, 2007)

6.4. Engaging patients in their care and in the design of care

Jönköping's use of "Esther" symbolizes the importance of care redesign focused on the needs and preferences of patients. In its initial development, the idea of Esther was used to focus discussions of system changes on patient needs. Today, there are "Esther coaches" who help to bring the patient perspective into daily practice. These coaches are primarily nursing assistants charged with helping their colleagues to stay focused on improving care to serve the need of patients.

Southcentral Foundation's mission is focused on building better relationships with patients as "customer-owners" of the system with the system of care designed around their care needs. Access to care was optimized to overcome barriers of location, language, and culture and to provide service as individuals wanted it, and how they wanted it (i.e., through individual or group visits, phone, or email) (Eby, 2007).

Bechtel and Ness (2010) note that "a truly patient-centred healthcare system must be designed to incorporate features that matter to patients—including "whole person" care, comprehensive communication and coordination, patient support and empowerment, and ready access. Without these features, and without consumer input into the design, ongoing practice, and evaluation of new models, patients may reject new approaches".

6.5 Promoting professional cultures that support teamwork, continuous improvement and patient engagement

Underlying the achievements of Southcentral Foundation, Jönköping and Intermountain is a commitment to building a professional culture that encourages improvement, patient engagement and teamwork. Former Jönköping CEO Karlssons' message to staff that everyone has "two jobs: improving care as well as providing care" underscores the transformation. It was an expectation at Jönköping that all staff members would be responsible for improving work and that information and results about performance would be transparent. (Jönköping County Council, 2004)

Large scale education and organizational development efforts were linked to quality initiatives so that staff learned new ideas and new philosophies as well as new tools. The Jönköping Qulturum symbolizes the central nature of this effort to the Jönköping strategy, as does the Advanced Training Program at Intermountain. Both Brent James (at IHC) and Gören Henriks (at Jönköping) saw education as a critical lever for changing culture and both devoted large portions of their time to these efforts.

Teamwork and the creation of high performing microsystems are also critical to transformation. Southcentral Foundation has emphasized the recruitment and training of individuals who can work in their `new model` of care. Creating new relationships based on high levels of interaction, trust and parallel work streams instead of the traditional hierarchical relationships between staff depends on new values and new ways of daily work.

6.6 More effective integration of care that promotes seamless transitions

While improvements in the organization and operations of microsystems create better results, patients rely on multiple microsystems in the hospital and community. Recognizing the interdependence between system levels means that quality improvement must also improve transitions of care between parts of the system, improving the transfer of information and coordination of care. Intermountain Healthcare`s emphasis on clinical process and clinical integration explicitly recognizes the ways in which front-line clinical microsystems are linked together, forming larger ``mesosystems` and programs of care. These mesosystems "serve patients with specific needs, integrating sequential processes and supporting parallel clinical units across the care continuum" (James and Lazar, 2007: 96).

Jönköping developed a number of system diagrams that were used to help understand the relationships between elements of the system and, in particular between different levels of care. Mats Bojestig, the senior medical leader at Jönköping notes the important shift from a focus on functional parts of the system (hospital, primary care, pharmacy, etc.) to a patient focus flow across these parts. Following Deming and others, the Jönköping leaders sought to see care as activities and parts of processes organized after prioritized patient values (Bojestig, 2010).

The development of a new model of primary care at Southcentral Foundation included the assignment of specialist physicians and other providers who support the primary care team. Nurse coordinators on the team also help patients to navigate across the system.

6.7 Information as a platform for guiding improvement

Intermountain Health Care in Utah possesses one of the most sophisticated clinical information systems in operation anywhere. The system is designed to provide information and decision support at the point of care, but also to support analysis at the microsystem, program, regional and system basis and to link clinical information with financial and other relevant data. Each clinical program has access to close to real-time data that can be used to identify improvement projects and track the impact of changes made to improve care, for example, in monitoring the care of asthma and diabetes patients in primary care, as well as outcomes of patients receiving care in Intermountain hospitals (James and Lazar, 2007). Information is important in Intermountain Health Care both within clinical microsystems to help them improve performance and in the organization as a whole as a means of linking between microsystems. The full benefit of the clinical informatics system at Intermountain comes from its connection to quality improvement activities and the broader strategy to develop models of clinical processes. The effective use of information is facilitated by leadership training for clinicians and training in quality improvement methods.

While Jönköping does not have access to a fully developed electronic clinical information system, it is very focused on identifying and using measurement to support improvement. The Jönköping leadership employs a balanced scorecard of measures in four domains: financial, customer experience, internal processes and institutional learning to set and monitor system goals (Bodenheimer, Bojestig and Henriks, 2007). Jönköping has developed a system of monthly measures using administrative data and manually collected information that acts as a local warning system. Sweden maintains a strong system of national clinical registries which have also proved useful as a knowledge base for improvement (Baker, MacIntosh-Murray and Porcellato, 2008). Local improvement teams collect their own measures of clinical performance to track their progress toward clinical goals.

Development and use of new performance measures also play a central role in the Southcentral Foundation case. Southcentral Foundation has a balanced scorecard that includes scores in disease management, customer service, relationships, illness prevention, cost reduction and system utilization. Southcentral Foundation also collects a wide variety of information, both quantitative and qualitative on the experiences and needs of their patients (Eby, 2007; Gottlieb, Sylvester and Eby, 2008). These data are used to compare performance of primary care providers and to assess improvements in key indicators such as access to care and comprehensive disease management measures over time. (Tierney and Hirst, 2011)

In all cases, the production of information on activities and goal achievement are combined with a determination to use evidence around best practices and to benchmark performance against others.

6.8 Effective learning strategies and methods to test and scale up

Southcentral Foundation has developed a highly successful model of primary care, adapting elements from a number of sources. Same day access was achieved through incorporating the scheduling and work flow ideas from the open access model (Murray and Tantau, 1998).

Jönköping has also been enormously successful in its efforts to identify new methods and tools and to adapt them to local environments. Their leaders have sought out experts and experiences in many different settings and worked to adapt these ideas to Swedish healthcare. For example, Jönköping has held

a Microsystems Festival for several years to learn how to optimize microsystem performance and to learn from the experiences of teams in the United States and elsewhere.

All three systems have had close linkages with the Institute for Healthcare Improvement. These relationships have been synergistic. Intermountain Healthcare`s work on surgical infection and acute myocardial infarction, among other areas were important sources of ideas for the IHI 100,000 lives campaign and Jönköping has been part of the leadership for the IHI work on `triple aim` (Berwick, Nolan and Whittington, 2008).

6.9 Leadership activities that embrace common goals and align activities throughout the organization

A leadership capable of projecting a system/integrative vision for change is observed in all three cases. For example, in Southcentral Foundation, the determination of Native leaders to develop a system that is fully aligned to the expectations and values of Alaska Native people has been at the root of their improvement journey. The vision of a "customer-owners" system that departs significantly from the former "medical non-system" (their term) and provides an integrative perspective on which to redesign the system. Such an integrative vision opens up the possibility of not only identifying specific improvement projects but also on the broader design and implementation of processes integrating the day-to-day operations of a system.

While we have focused on senior leadership, clearly these organizations have been successful in developing a broad leadership strategy across the organization, and, in particular, in recruiting physicians and other clinicians to become engaged in system leadership. Jönköping developed a leadership forum that linked leaders from across the county in identifying key strategic priorities and in engaging in dialogue about how to enact these priorities. Intermountain Healthcare has created a strong leadership development program that helps to grow leadership skills for the larger system and to develop a common knowledge base and common language for improving system performance.

All three of these systems have had strong senior leadership, but leadership in these systems is also distributed and collective (Buchanan, et al., 2007). And while all have benefited from CEOs who have embraced the philosophy of healthcare improvement, all three systems have had influential thought leaders (Henriks in Jönköping, Eby in Southcentral and James at Intermountain) who have worked closely with these CEOs in developing strategy and implementing new activities in these three systems. The leadership in these systems has also been stable for extended periods with few turnovers in CEOs.

6.10 Providing an enabling environment buffering short-term factors that undermine success

All three systems have faced major challenges. Adopting a long-term strategy for improving care, working to develop talent and create a focus on providing patient-centred care are not always easy in a broader national environment that rewards short term results. An important part of the success for these systems has come from their ability to identify larger forces that shaped their environments and to respond effectively to these forces. Brent James, David Burton and others at Intermountain saw the power of linking an effective clinical informatics platform to sophisticated knowledge of process and systems improvement and convinced the Intermountain leadership to invest in building the infrastructure and human capital to recognize this goal. Jönköping has managed to maintain its focus despite changes in economic climate and political changes that might have reversed its efforts to create a cooperative system wide focus on redesigning care. The Southcentral Foundation had to overcome a history of outside experts who believed they knew what was right, and of individual Alaska tribes who wish to exert control over the governance of healthcare services for their people. Governance and management has largely shifted to

members of the Alaska Native population. This has enabled Southcentral Foundation to prioritize services according to customers' needs and to implement and sustain a model of care that is supported by the community. (Eby, 2007; Eby and Galbreath, 2010)

7 LESSONS FOR THE CANADIAN HEALTHCARE SYSTEMS

In this section we first identify some of the characteristics of Canadian healthcare systems that may influence their ability to achieve significant improvement. We then identify a set of implications of the themes derived from the analysis of the three transformative systems for improving performance in Canada's healthcare systems.

7.1 Context of the Canadian healthcare systems

Recent reports and analysis of changes and improvements in the Canadian health systems suggest that these systems have achieved limited transformation and improvement in key areas where major care deficits persist such as primary care, management of chronic diseases, home care and mental health (Health Council of Canada, 2008; Schoen & Osborn, 2010; Nasmith, Ballem, Baxter & al., 2010; Mental Health Commission of Canada, 2009). While many local initiatives across Canada offer promising efforts to improve care and services, healthcare systems still face the challenge of achieving large-scale improvements. Past investments to renew Canadian healthcare systems including various projects in the late 1990s and early 2000s funded under the Health Transition Funds program have shown that some local delivery organizations can develop and implement strategies for improvements. However, analysis of this program suggests there is a limited capacity to spread promising experiments across the system and to ensure their sustainability. One analysis summarized the issue this way:

> *"Likewise, it is crucial to identify the factors that lead to more rapid and widespread uptake. Too often the next step after a successful demonstration project is another demonstration rather than full-scale implementation. The aftermath of the HTF [Health Transition Fund] experience will be a test of the resolve to act on solid and made-in-Canada innovations. If the best of the projects do not become the templates for the system at large, it will be important to determine why they did not. It would be a travesty if programs like the HTF, through no fault of their own, end up as unwitting accomplices of those who wish to prevent or delay change by providing an excuse to defer decisions in order to await the results of projects that seek to reaffirm persuasive findings previously generated" (Lewis, 2002:15).*

Several features of Canadian healthcare systems influence their capability for innovation. Continuing autonomy in governance of local delivery organizations or regional health authorities provides opportunities for local organizations to experiment with new innovations. But many organizations lack the capability to identify and test new approaches; and autonomy also can limit the dissemination of new innovations that are successful in local settings. The continuing autonomy and independent provider status of physicians can also limit innovation. Governments and healthcare delivery organizations have attempted to engage physicians in system changes, but heightened efforts are needed to encourage greater alignment and engagement by physicians in system level changes.

Some recent developments in Canadian healthcare systems provide new avenues for innovation and improvement. The Ontario government has adopted new legislation that creates an enhanced focus on improving quality of care. The creation the Health Quality Council in Saskatchewan and similar bodies in

several other provinces support practice based improvement. And the development of health technology assessment bodies such as l'Institut national d'excellence en santé et en services sociaux (INESS) provide a mechanism for translating evidence of effectiveness into funding and other decisions. In addition, the growing availability of information to monitor change and improvement (data from CIHI for example on the utilization of resources and services in various provinces) facilitates and encourages initiatives to improve care and services. The widespread perception of the need to rebalance the system in favour of primary care and the management of long-term conditions and chronic diseases also provides a facilitative context for improvement. Finally, the policy momentum created by the expiration of the Canadian Health Accord in 2014 and concerns about the sustainability of the system may be an occasion to assess past initiatives for improvement and to develop innovative strategies to support large-scale improvement. However, large-scale efforts to improve performance can only succeed if initiatives and investments focus on key strategic levers described in the next section.

7.2 Implications for Canadian healthcare systems

The implications for Canadian healthcare systems of the lessons learned from the comparative study of three innovative systems are discussed along four dimensions: supportive institutions and context, capacity building and leadership for improvement, priority areas for improvement and patient engagement. These dimensions reiterate the 10 key themes elaborated above. These dimensions cover critical resources and processes necessary for broad-scale improvement in the performance of healthcare systems in Canada. While all of these themes are relevant for all provincial and territorial systems, the lessons derived from this analysis will have to be adapted for the different provincial jurisdictions and for the varying challenges these systems may face in the coming years. The themes are also interactive and reinforcing. Success in only some of these areas may be insufficient for achieving high performance.

Supportive institutions and context

Efforts to improve quality and patient safety have been assisted recently by the development of supporting institutions like quality councils in many provinces. These councils have clear mandates to support improvement within the healthcare systems and help to augment other institutional and organizational resources by providing training, supporting collaborative initiatives across organizations, and carrying out applied research on approaches for improvement and learning across jurisdictions and systems. These institutions can also support the development of guidelines and their implementation among delivery organizations and providers.

These quality councils may also help to provide a consistent resource to organizations in the face of broader restructuring and realignment. They represent an alternative to the current approach to reform in healthcare systems by focusing less on the reorganization of the system and more on factors and process that support improvement. Repeatedly, various health system actors complain about the impact of political decisions on the day-to-day functioning of the system. Quality councils may help mediate these changes and provide organizations with resources and expertise to address improvement strategies.

In addition, many provinces may use their current governance structures such as regional health authorities to enhance accountability to support improvement in delivery organizations. Several provincial governments, including BC and Ontario, have become more directive about quality performance such as patient safety and infection control measures. Yet the potential of regional structures coupled with institutions like quality councils has not been fully exploited in most provinces. Exceptions to this include the extensive program of activities and strategic focus on quality in Saskatchewan, linking the

Health Quality Council, the health authorities and government in a program with specific quality and improvement goals and efforts by the BC Patient Safety and Quality Council to support local patient safety improvements. The use of research to support systemic efforts for improvement (KAST Report—Knowledge and action for system transformation, 2010 for example) could also be further developed. Research on the outcomes and on the process of implementing large-scale transformative strategies can inform improvement strategies. For example, the current research assessing the province-wide implementation of Releasing Time to Care in Saskatchewan can assess and help focus these investments. (Releasing Time to Care helps front-line staff to improve patient unit function, reducing wasteful activities and improving direct care time spent by nurses.)

Overall, Canadian healthcare organizations would benefit from an increased attention to capacity building around governance, quality improvement and clinical leadership. A focus on the development of an integrative strategy for improvement that capitalizes on existing governance capacities and on emerging organizations like quality councils offers promise but the Canadian system might also benefit from a more explicit articulation of ambitious targets. Recent reports on the performance of Canadian healthcare systems identify many areas in need of significant improvement (Health Council of Canada, 2011). The emerging challenges of chronic disease management and improved collaboration across different sectors provide an opportunity to design, implement and test innovative delivery arrangements and models of care. Yet there appears to be only very limited experience in the system aimed toward improving inter-sectoral collaboration where resources and expertise from various sectors (e.g., health, education, urban planning) jointly respond to problems that require a more collective approach (for example, in improving mental health).

Moreover, Canadian healthcare systems have been relatively modest in aligning the incentive structure and methods use to finance delivery organizations or to pay providers with quality goals. Recent work (Sutherland, 2010; Doran & Roland, 2010; Werner & Dudley, 2009) suggests that economic incentives can be facilitative if they are introduced within the context of broader improvement strategies including the building of human resources capacities. Efforts to develop interprofessional work and more integrated clinical teams may open up new options for governance and incentives (Burns & Muller, 2008). The identification by provincial governments of clear, well-defined targets and limited sets of improvement goals can also help to gain the attention and commitment of professionals. Goal setting is critical to aligning activities across the system although it does bring with it a risk of potential under-attention in other areas.

The development and use of information for decision-making has advanced significantly across Canada over the last ten years supported by strong efforts by the Canadian Institute of Health Information and other groups. However, most healthcare systems still have limited information available from electronic information systems, and even where they are well developed, they are primarily patient record systems, not full-fledged electronic data warehouses with strong decision support for programmatic and clinical decision-making as is evident in Intermountain. The absence of successful initiatives in some provinces has encouraged local system development, but not on common platforms. *Enhanced efforts are needed to create a more integrated strategy to support the implementation of decision support tools for clinicians*. Yet, while information and measurement are certainly essential elements of an improvement strategy, a sophisticated EHR system should not be seen as a pre-requisite for improvement efforts. The experience of Jönköping suggests that governance bodies, organizations and clinical teams can still achieve high performance by relying on available information and locally developed indicators supporting their improvement work. The development and monitoring of indicators for improvement should be part of capacity development efforts for all organizations. Provincial governments and regional health authorities

should support the development and delivery of training programs to increase local capacity for improvement and in managing information. More pro-active exploitation of care process indicators can also help support improvement efforts.

Learning within and across jurisdictions is key for health system improvement in Canada. Many promising initiatives remain local. The challenge of spreading successful innovative approaches is a major issue in this country, much as it is in others (Buchanan, Fitzgerald & Ketley, 2007). Making sense of projects and initiatives developed in a different context requires exchanges and learning (a theme reiterated in many papers on learning in complex systems). Today, in many provinces the opportunities for learning across organizations and across jurisdictions are very limited, often due to limited visibility or concerns about the cost on inter-jurisdictional learning. Virtual communities of practice (CoP) have gained in popularity in many healthcare systems. The development of CoPs across organizations provides an option to increase learning with limited travel and other costs. Safer Healthcare Now!, the pan-Canadian patient safety initiative to improve care has made extensive use of communities of practice along with other means of distributed learning such as webinars. Bate and colleagues (2004) explore the potential of a "social movement" approach to generate and spread innovation within healthcare systems. Their review suggests, similar to the literature on sustainability of changes, that multiple factors influence the diffusion of innovation necessary to produce large-scale transformation. Mechanisms for further cooperation and collaboration between teams in delivery organizations and regional health authorities within or across different provinces to mutually support their improvement strategies should be explored further. Resources to support such experiments in key strategic domains for improvement are another option. Such exchanges should focus on a limited set of issues with potential for high impact on learning and system improvement.

In summary, based on the analysis of three innovative systems, we suggest that leaders in Canada's healthcare systems should pursue the development and consolidation of supportive institutions and of contextual elements that facilitate improvement. The role of institutions like quality councils appears to be central in promoting these efforts.

Capacity building and leadership for improvement

Investments in skills and knowledge supporting improvement coupled with systemic approaches to leadership development offer important supports to local improvement and system redesign efforts. A number of pan-Canadian and provincial capacity-building initiatives have been ongoing across Canadian healthcare systems—these include initiatives like Search Alberta, CHSRF EXTRA, the CPSI-CHSRF capacity development initiatives for boards, the Centre for Excellence in Healthcare Governance and more local initiatives supported by quality councils and other groups. Some of these initiatives may offer potential models for system-wide improvement. Yet almost all of these efforts focus more on the development of individual skills and knowledge and less on system and organizational capability. Thus they may represent only one of the elements of a more systemic approach to improvement. Current efforts by CHSRF to revise the EXTRA programs to focus on leadership and system improvement skills may represent efforts in the right direction. Canada also has a cadre of university programs and capacity for training that could be put at work in a more concerted or deliberate manner to support healthcare systems in their efforts to increase capacities.

Emerging initiatives (including priorities targeted by the Quality Council in Saskatchewan, as well as l'Initiative pour le partage des connaissances et le développement des compétences—a consortium of health organizations in Quebec dedicated to achieve improvements in primary care) may evolve toward a more integrative or systemic approach to improvement. Some structural changes like the creation of Centres de santé et de services sociaux (CSSS) in Quebec and the consolidation of regional health authorities in various provinces may also facilitate the implementation of a systemic approach to improvement. But too

few regional authorities and healthcare delivery organizations have made substantial investments to date in systematic quality improvement skill training and initiatives. A closer alliance between agencies like quality councils and regional health authorities can provide a fertile ground for larger-scale improvement training initiatives linked to projects in local work settings.

Similar to others industries, capacity-building initiatives have to target organizations and provider groups to help develop more effective improvement strategies. Investments in capacity building need to reflect strategic initiatives rather than take the piece-meal approach to training often observed in Canadian healthcare organizations. In healthcare systems, capacity building should focus on the development of skills and knowledge for improvement among clinicians and providers of care and services (Nelson, Batalden, Huber et al., 2002; Nelson, Batalden and Godfrey, 2008). There are a number of local initiatives to integrate more comprehensive quality-improvement knowledge into professional training, including undergraduate medical education. More conscious organizational development of physician leadership and professional leadership positions with a focus on improving clinical processes and outcomes would create a stronger capability at an organizational and system level (Baker & Denis, *in press*). Clinical leadership training in Canada has been largely focused on the individual rather than on organizational development, and has not always been linked to specific strategic goals. A greater emphasis on leadership training for improvement could have a considerable impact on the capacity of organizations to mobilize physicians, nursing leaders and managers. Many organizations are currently developing co-management (medical/administrative) leadership structures, such as program structures, that could provide a facilitative context for competency development. However, the literature on physician leadership suggests such structural approaches to leadership capacity (developing formal structures and positions) have limitations and should be coupled with capacity development strategies to better align professional preferences and influence with organizational and system objectives (Baker & Denis, *in press*). Development of broad efforts to improve performance must be based on a culture that supports improvement (Carroll & Edmondson, 2002). Literature on micro-systems and improvement suggest that leadership needs to be both collective, mixing individuals from the managerial and clinical world, but also distributive, providing a significant role to professionals and front-line workers to drive improvement initiatives.

While there are many leadership development programs available in Canada (and elsewhere) few of these target organizational and system capacity. A focus on individual competencies will be insufficient for effective healthcare systems. Moreover, few leadership programs have explicitly addressed the need for deep leadership skills and knowledge related to performance and quality improvement. Greater investments in leadership development and more attention to creating leadership systems are prerequisites for creating more effective healthcare systems. This requires an explicit focus on the development of medical (and other clinical) leadership and the development of leadership and management structures that value both clinical expertise and leadership skills. Efforts to identify and develop individual competencies are helpful, but these need to be linked to analyses of organizational capabilities and leadership. Promoting systematic leadership development, as was undertaken recently in a nine-organization learning collaborative sponsored by the Centre for Healthcare Quality Improvement at the Change Foundation in Ontario, achieved some notable success in focusing strategic aims and developing leadership skills across these organizations.

In summary, we suggest that Canadian healthcare systems have to adopt a deliberate strategy of leadership development for improvement, including strategies for large-scale mobilization of professionals and front-line workers. This strategy should emphasize the importance of going beyond the development of individual leadership skills to address leadership issues from a systemic perspective.

Priority areas for system improvement

Most improvement work in Canada has focused on hospitals and acute care. However, the greatest leverage may be in other domains, including primary care and the integration of care and services across sectors.

Primary care is increasingly viewed as a critical starting point for transforming healthcare systems and improving access to and quality of care (Starfield, Shi et al., 2005; Hutchison, 2008; Health Council of Canada, 2009). Initiatives to develop primary care teams continue to evolve at various speeds in different provinces (e.g., Family Health Teams in Ontario, Groupes de médecins de famille in Quebec, Divisions of General Practice in British Columbia). These primary care teams may benefit from additional focus on interprofessional collaboration (Grimaud, Lévesque, Primaud, 2010). The development and spread of interprofessional teams at the local or regional levels cannot be achieved without government support for the training and the further development of professionals such as nurse practitioners. Also critical is the relationship between these teams and the overall system, which has been highlighted by a recent focus on improving care transitions. Efforts to secure improvements in transitions will require changes in system design and focused improvement efforts across organizations. In addition, more support to develop skills and competencies for interprofessional work and support for the diffusion of best practices and models of care for chronic patients are needed. Many Canadian chronic care strategies and initiatives have been limited in scope. Institutions like quality councils can play a major role in developing system-wide initiatives to support best practice in primary care and chronic disease management.

The theme of integration remains a constant preoccupation within Canada's healthcare systems. The development of program structures within organizations may help support integration of care within organizations. Greater capacity to design more effective care pathways and to link this knowledge to clinical and management decisions and the structure of work may address both efficiency and quality goals. Yet integration across settings is more challenging. While regional health authorities have the levers to address these issues, this advantage does not seem to be fully realized in changes in local delivery structures and processes. Among the most important structural and cultural barriers are the gaps between primary and secondary care, and between private medical clinics and public healthcare organizations. Further development of electronic information systems that link providers in different settings would be valuable, but these have been slow to emerge. Creation of performance indicators that refer to cooperation and collaboration among independent organizations and providers will be essential to improve the integration of care and services. But these indicators alone will not improve performance unless they are linked to local improvement strategies and skills. Preliminary analysis of the implementation of Centres de santé et de services in Quebec suggests that the consolidation of organizations within local areas may foster the development of local health networks (Denis, Haggerty, Champagne et al., 2011). The role of shared values among the different providers plays a critical role in the creation of integration. These findings suggest that integration of care and services will proceed from a mix of strategies that combine structural and virtual integration. Analogous to improvement strategies, the use of a single lever to achieve desirable changes is not sufficient.

Patient engagement for the improvement of care and services

Patient engagement in various forms plays a critical role in the three cases we studied. Patient engagement initiatives reflect a growing interest in orienting healthcare systems to better respond to patient needs and expectations. Moreover, patient engagement is increasingly viewed as a potentially strong lever to shift the system toward improvement. However, the focus on improving access and the pressures to move patients quickly through the system can conflict with the goal of improving patients' experience of care. A recent review of the literature describing experiments in patient engagement suggests that the potential

of this lever for improvement has not been fully exploited (Bombard, Baker, et al., 2011). More initiatives are required that go beyond an approach of consulting patients through surveys or focus groups and actually involve them in the design of services. A recent analysis of patient engagement initiatives in a set of demonstration projects sponsored by the Canadian Health Services Research Foundation (Macintosh-Murray, Baker, Denis and Pomey, 2011) suggests that specific investments, efforts and time are needed to develop more effective patient engagement strategies.

The spread of patient engagement initiatives across the system may be a prerequisite in achieving a wider impact. Current experiments in Canada suggest that it is possible to find leaders to support patient engagement in various institutions. However, most of these experiments are small in scale and supported by short-term external funding; British Columbia and Alberta are exceptions. Yet even if these experiments prove valuable, the sustainability of such initiatives and their diffusion across Canadian healthcare systems may face the same limitations that the projects supported by the Health Transition Funds faced more than ten years ago. Again, patient engagement initiatives are only one element of improvement strategies and their sustainability will depend on their inclusion in an integrative approach to change and improvement.

7.3 Summary of implications

Our analysis of the key attributes of three innovative systems that have achieved significant improvement reveals a set of elements on which Canadian healthcare systems can build to develop effective strategies for improvement. Some of these elements refer to broader policies and resource allocations over which individual delivery organizations have limited influence. Other elements depend on the inner dynamics of organizations and their approach to leadership development and improvement. Increasing the focus on improvement can be a viable strategic option for organizations that are under external pressures to reorganize and to respond to external demands. Emphasizing improvement offers a strategic response to short-term demands while also building systems that permit a focus on mid- to long-term improvement goals. Many of the elements identified in this paper can help organizations deal with such competing demands. Successful improvement strategies also require increased engagement of physicians and other professionals involved in the planning and delivery of care and services. Indeed, greater focus on improvement may help in the long run to mobilize these professionals around organizational and system objectives. Many organizations may feel that the critical elements we identified are difficult to achieve in the current environment. But the experience of Jönköping, Intermountain and Southcentral Foundation indicates that sustainable strategies for improvement can be developed incrementally. One of the lessons of these cases is that radical change requires constancy of purpose and investments over time. Canadian healthcare leaders need not wait for the ideal conditions before embarking on an improvement journey; they hold the responsibility to take the first best steps for developing strategies that support large-scale improvements across Canadian healthcare systems.

8 AREAS FOR FURTHER STUDY

The examination of the three leading systems was based largely on interview data, published materials and Internet resources. While each of these systems has been internationally recognized as a high-performance system, additional data on areas of success and comparative indicators of their performance against peers would be useful in demonstrating their relative achievements.

Further, detailed analysis of the characteristics of the Canadian healthcare context that support or impede high performance would also be useful in developing strategies to raise performance. Comparative examination of successful organizations, networks and regions, both in Canada and elsewhere, would provide additional information on strategies that could be used more broadly to raise the performance of Canadian systems. For example, the Saskatchewan efforts to improve the surgical value stream might be compared with similar initiatives in other parts of Canada. Further investigation of strategies to improve organizational capability and leadership could examine the impact of emerging efforts in the United Kingdom, United States and other countries.

9 CONCLUSIONS

This brief review outlines the strategies, investments and philosophies of three health systems that exemplify system transformation and significant improvements in healthcare outcomes. A number of common elements emerge in the analysis of their improvement journeys. In each system, strong leadership emerged that shaped a new vision and mission and engaged staff in the efforts to improve performance. The ability of these leaders to formulate an encompassing vision that deals with organizational and system-level issues, and not only localized improvement efforts, appears critical. While leadership at the top of these systems plays a key role, the development of leadership and skills for improvement at all levels is essential to translate the vision into new operating principles for the system and ultimately into real improvement for patients and users.

Each of the three systems had leaders who were immersed in the skills and ideas of improvement knowledge. However, these leaders were also broad thinkers who sought to integrate different ideas and not remain captive to limited approaches. Moreover, the capability of these systems to achieve higher levels of performance was not based solely on technical training of personnel. Instead, this technical skill development was also linked to shifts in culture or mindset to engage clinicians and managers in improvement efforts (creating a culture of measurement and performance, a culture of learning, a focus on patient- or customer-driven change, teamwork orientation and similar values.)

The achievement of significant improvement is related to the implementation of multiple changes across the system that reinforce one another. For example, the development of skills for improvement may stimulate the emergence of a culture of measurement and performance. The involvement in team and interprofessional work may stimulate the development of new models of care (for example, to manage chronic diseases).

One important lesson from these cases is that they achieved significant improvement without significant injection of substantial new resources. Instead, these systems seem to have achieved performance gradually, and invested the “dividends” from their improvement projects in new skills and new resources. Leaders in these systems invested significantly in their staff, in the development of their skills and in leadership development and learning processes. These efforts have not only improved the delivery of care and services and the satisfaction of clients and patients, but have also improved the satisfaction of professionals (see Southcentral, where the changes in clinical performance were accompanied by improvements in staff satisfaction as well). This observation suggests that organizational and system-level strategies can be designed and implemented to achieve higher performance despite some limits in resources and constraints within each system. In some cases, economic incentives (for example, the mode of payment of physicians in Southcentral Foundation) have been part of the improvement equation, but seem to be only one of a set of enabling factors among broader strategies and not the critical levers for improving performance.

The material available for our analysis was not very explicit about the tensions that these systems may have faced in achieving their transformation. In the case of Southcentral Foundation, the dissatisfaction of Alaska Native people with their health system provided a strong impetus to repatriate the authority to govern and manage the system. In Jönköping, the leadership adopted a focus on quality in the context of a negative economic climate and the sense that a new approach was needed. What we observe in all three cases is that beyond some critical conditions that may trigger impetus for change initially, these systems have worked through time to institutionalize processes and practices for improvement. In each case, the focus on improvements in performance, sometimes referred to as "quality as a business strategy," underpinned the specific initiatives and created a broad canvas for leadership action. Returns from this strategy that demonstrated improvements in care and increases in patient satisfaction with the experience of care reinforced this strategy. Leaders who see results are likely to reinforce these new operating principles. Each of these three systems has achieved a level of performance where it is unlikely that new leaders would seek to reverse the focus on improvement as a core strategy. Having said this, these systems have been supported by stable leadership along their improvement journey over a significant time period. Other systems may not have the benefit of such continued leadership or the impact of a strong and compelling vision.

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