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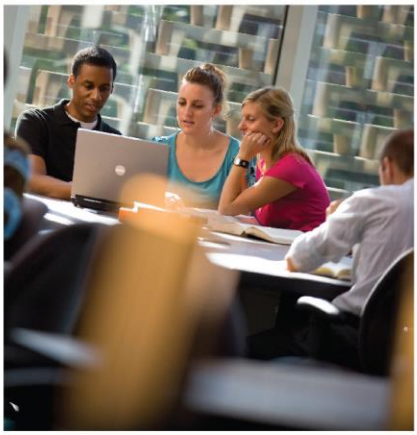
EVIDENCE BRIEF

IMPROVING LEADERSHIP CAPACITY IN PRIMARY AND COMMUNITY CARE IN ONTARIO

30 JANUARY 2015



EVIDENCE >> INSIGHT >> ACTION

Evidence Brief:
Improving Leadership Capacity in Primary and Community Care in Ontario

30 January 2015

McMaster Health Forum

For concerned citizens and influential thinkers and doers, the McMaster Health Forum strives to be a leading hub for improving health outcomes through collective problem solving. Operating at the regional/provincial level and at national levels, the Forum harnesses information, convenes stakeholders, and prepares action-oriented leaders to meet pressing health issues creatively. The Forum acts as an agent of change by empowering stakeholders to set agendas, take well-considered actions, and communicate the rationale for actions effectively.

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Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the evidence brief. The funders played no role in the identification, selection, assessment, synthesis, or presentation of the research evidence profiled in the evidence brief.

Merit review

The evidence brief was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its system relevance and scientific rigour.

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KEY MESSAGES

What's the problem?

- Ontario's primary- and community-care sectors are increasingly being called upon to work as part of an integrated system to achieve key health-system goals related to access, quality, health outcomes and value for money. Achieving these goals will likely require strong management, governance and leadership, and particularly leadership at multiple levels and at the interface between these levels.
- The insufficient leadership capacity in the primary- and community-care sectors can be understood in relation to four contributors to the problem:
  - links between leadership, its antecedents (i.e., the factors associated with successful leadership) and its consequences (i.e., the impact of leadership on achieving aims and objectives) have not been well established, particularly in primary and community care;
  - leadership programs and initiatives aren't getting us where we need to be;
  - existing health-system arrangements complicate the situation significantly; and
  - progress is being made, but slowly.

What do we know (from systematic reviews) about three options to address the problem?

- None of the options has been the principal focus of a systematic review of the research literature. The systematic reviews that relate in some way to each option element are often of indirect interest and of low or medium quality. That said, decisions can and often need to be made without supportive research evidence, and in this case these decisions can be informed by the tacit knowledge, views and experiences of dialogue participants, and ideally subjected to monitoring and evaluation.
- Option 1 – Develop, disseminate and support the use of a toolkit to support leadership development in primary and community care (i.e., better publicize what we've got)
  - Three high-quality systematic reviews were identified on the topic of developing, disseminating and supporting the use of a toolkit, all of which suggested that printed educational materials can have some impacts, and two of which suggested that multi-faceted interventions can have greater impacts (albeit for topics and domains slightly different than leadership in primary and community care).
- Option 2 - Convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care (i.e., push for something better for Ontario's primary- and community-care sectors)
  - Only eight systematic reviews were identified, all relate to the first and third option elements (i.e., curriculum standards and human-resource planning), only three were of medium quality (and the rest low quality), and at best they can help to identify issues that may need to be considered.
- Option 3 - Identify current and emerging leaders in primary and community care and support their participation in a national leadership initiative (i.e., push for something better in Canada that works for Ontario's primary- and community-care sectors)
  - Only two new low-quality systematic reviews were identified and both relate to but are only of indirect relevance to a single option element.

What implementation considerations need to be kept in mind?

- A number of barriers at the levels of providers, organizations and systems might hinder implementation of the options. Perhaps the biggest barrier lies in making the case for a 'burning platform,' given how challenging it is to confirm (or refute) the assertion that investing in leadership will support health-system transformation and ultimately have an impact on key health-system goals.
- On the other hand, a number of potential windows of opportunity could be capitalized upon, including a growing recognition that the demands for leadership capacity have likely never been greater, and the existence of many elements of a toolkit, a potential secretariat for a provincial committee, and a network that could identify leaders to participate in a national leadership initiative.

REPORT

Ontario's primary and community care sectors are increasingly being called upon to work as part of an integrated system, both in relation to each other and in relation to acute care, public health and other sectors, to achieve key health-system goals.(1) Health Links, for example, are forging partnerships among providers and organizations to better meet the needs of high service users. Community-based specialty clinics will also need to forge partnerships among providers and organizations, in their case to successfully manage the transition of care from hospital to home and community.

The primary- and community-care sectors are undoubtedly different from one another in many respects. For example, primary care has historically been dominated by a single professional group (physicians) whose members typically worked in small private practices and received their remuneration from government without the involvement of Local Health Integration Networks (LHINs). Community care has historically been much more heterogeneous in terms of the professional groups involved (e.g., nurses, personal support workers and social workers), the nature of employment relationships, and the nature of any contracting or other forms of organizational relationship with Community Care Access Centres, LHINs, government, and private payers.

Yet the two sectors also share important attributes, such as their position as the key points of contact for most Ontarians seeking care (particularly for those living with chronic conditions), the need to take a holistic and patient-centred view of care (particularly for those living with two or more chronic conditions, which we call multi-morbidity), and payment systems that have historically rewarded volume of services over other measures. As the Health Links and specialty clinics examples above suggest, the sectors also share a growing imperative to broaden their conception of accountability to include a 'horizontal' accountability to other providers and organizations, not just a 'vertical' accountability within an organization and between the organization and a LHIN or the government.

This evidence brief has been prepared to respond to an Applied Health Research Question posed by Ontario's deputy minister of health and long-term care under the terms of a Health System Research Fund award from the Government of Ontario. The then deputy minister initially asked the question: how can we improve management capacity in Ontario's primary- and community-care

Box 1: Background to the evidence brief

This evidence brief mobilizes both global and local research evidence about a problem, three options to address the problem, and key implementation considerations. Whenever possible, the evidence brief summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The evidence brief does not contain recommendations, which would have required the authors of the brief to make judgments based on their personal values and preferences, and which could pre-empt important deliberations about whose values and preferences matter in making such judgments.

The preparation of the evidence brief involved five steps:

1) convening a Steering Committee comprised of representatives from the partner organization and the McMaster Health Forum;
2) developing and refining the terms of reference for an evidence brief, particularly the framing of the problem and three options to address it, in consultation with the Steering Committee and a number of key informants, and with the aid of several conceptual frameworks that organize thinking about ways to approach the issue;
3) identifying, selecting, appraising and synthesizing relevant research evidence about the problem, options, and implementation considerations;
4) drafting the evidence brief in such a way as to present concisely and in accessible language the global and local research evidence; and
5) finalizing the evidence brief based on the input of several merit reviewers.

The three options could be pursued singly, simultaneously with equal or different emphasis, or in a sequenced way.

The evidence brief was prepared to inform a stakeholder dialogue for which research evidence is one of many considerations. Participants' views and experiences and the tacit knowledge they bring to the issues at hand are also important inputs to the dialogue. One goal of the stakeholder dialogue is to spark insights – insights that can only come about when all of those who will be involved in or affected by future decisions about the issue can work through it together. A second goal of the stakeholder dialogue is to generate action by those who participate in the dialogue, and by those who review the dialogue summary and the video interviews with dialogue participants.

sectors? However, as the work progressed (and our contact became the acting deputy minister who is also continuing to work as the associate deputy minister, Transformation Secretariat), we came to realize that while management capacity is important, so too are governance and leadership capacity (Table 1). We eventually selected leadership capacity as our principal focus and management and governance capacity as our secondary focus.

Table 1: Key terms used in the evidence brief

Term	Examples
Management	Examples of functions • Overseeing the day-to-day operations of the organization • Setting, monitoring and reporting on performance and quality measures and taking corrective action when necessary • Developing budgets, monitoring revenues and expenses, preparing financial reports, and taking corrective action when necessary • Developing and implementing new programs and services and adapting or discontinuing programs and services that are no longer key to achieving strategic directions • Hiring, supervising and motivating staff • Communicating with patients/clients, funders, partners, the media, etc. Examples of form taken • Senior management team of a large community-care organization • Executive director of a Family Health Team • Physician working in solo practice
Governance	Examples of functions • Establishing the organization's vision, values, mission and strategic directions • Setting limitations to management authority (e.g., annual budget), targets for the organization and other accountability mechanisms, monitoring these accountabilities, and taking corrective action when necessary • Hiring and supervising the chief executive officer/executive director Examples of form taken • Community-governed board of a Community Health Centre • Shareholders of a professional corporation providing medical services (although in this instance the first two examples of functions may be implicit, the shareholders may include the person who acts as the chief executive officer and the person's family members, and the chief executive officer may also be the person providing medical services)
Leadership ("capacity for self and others to work together to achieve a constructive purpose."(2))	Examples of functions • Identifying an unmet need for care at home or in the community, and building support within the organization and alliances with other organizations to address it • Responding to a government call for meeting the needs of high service users with complex needs by creating a cross-organization steering group to develop a proposal for, implement and continuously improve, a Health Links • Forging a partnership with a newly funded community-based specialty clinic to act as a bridge between the specialists providing high-volume procedures and the primary- and community-care organizations providing follow-up care Examples of types • Distributed leadership: "Attends to change visioning and implementation as a collective enterprise, involving a variety of actors (individuals and/or groups) sharing in change agency roles."(3) • Complexity leadership: "Sees the environment or context for action as a complex, turbulent entity that is very unpredictable, self-organizing in many instances, and rife with unanticipated consequences of action"(4), citing the following: (5;6) Examples of form taken • Social worker employed by a community-care organization who creates a strategic alliance • Physician working in a Family Health Organization who has no formal managerial responsibilities but who volunteers to play a leadership role in a Health Links • Executive director of an Aboriginal Health Access Centre who forges an innovative partnership

Achieving key health-system goals – improving the patient experience (or improving access and quality, as is more commonly said in Ontario), improving the health of populations, and reducing the per capita costs of healthcare (or "getting better value from our healthcare dollars," as is more commonly said in Ontario)(1) – will require strengthened management, governance *and* leadership. It takes strong management capacity to implement innovations and evidence-based approaches (e.g., same-day/advanced access scheduling in primary care)(7) within an otherwise largely stable organization or system. It takes strong management and governance capacity to achieve quality and safety, and to achieve performance improvements more generally, both of which suggest some shift in an organization or system. It will take strong management, governance and leadership capacity to achieve sustainable results from a transformation like Health Links, which involves a more fundamental re-alignment of organizations within the type of complex-adaptive system we have in the primary- and community-care sectors. (8)

Achieving these goals will also likely require leadership at the organizational, sectoral, regional and provincial levels, and at the interface between these levels.(9;10) The front-line nurse and the patient advocate will need to collaborate closely with staff and peers in their own organization and in other primary- and community-care organizations involved in a Health Links, to improve the patient experience for individuals who are heavy users of the health system. The LHIN chief executive officer will need to build consensus among professional leaders in primary and community care and among management staff in the LHIN about how to keep per capita costs manageable for the Health Links in his region. And a senior civil servant will need to drive an effort to institutionalize such a primary- and community-care reform if it can be shown to improve the experiences and health of her province's most vulnerable residents at an acceptable cost.

This evidence brief builds on our past work in two ways. First, it builds on the issue brief we prepared and the stakeholder dialogue we convened in June 2010 on the topic of 'supporting quality improvement in primary healthcare in Ontario,' as well as the 'strategic directions for strengthening primary care in Ontario' that were proposed by the Primary Healthcare Planning Group that was created as a direct result of the stakeholder dialogue.(11-13) The strategic directions include: 1) aligning goals, measures and priorities; 2) strengthening governance to support horizontal integration within primary (and community) care and vertical integration with acute care and other sectors; 3) using a patient-centred approach; 4) harnessing accountability levers and incentives; and 5) continuously improving quality.

Box 2: Equity considerations

A problem may disproportionately affect some groups in society. The benefits, harms and costs of options to address the problem may vary across groups. Implementation considerations may also vary across groups.

One way to identify groups warranting particular attention is to use "PROGRESS," which is an acronym formed by the first letters of the following eight ways that can be used to describe groups†:

- place of residence (e.g., rural and remote populations);
- race/ethnicity/culture (e.g., First Nations and Inuit populations, immigrant populations, and linguistic minority populations);
- occupation or labour-market experiences more generally (e.g., those in "precarious work" arrangements);
- gender;
- religion;
- educational level (e.g., health literacy);
- socio-economic status (e.g., economically disadvantaged populations); and
- social capital/social exclusion.

This evidence brief strives to address all people, but (where possible) it also gives particular attention to two groups:

- emerging clinical/professional leaders, particularly those challenged by the transition from clinical/professional leadership positions to organization-, sector- and/or system-level leadership positions; and
- leaders with responsibility in/for rural and remote areas.

Many other groups warrant serious consideration as well, and a similar approach could be adopted for any of them.

† The PROGRESS framework was developed by Tim Evans and Hilary Brown (Evans T, Brown H. Road traffic crashes: operationalizing equity in the context of health sector reform. *Injury Control and Safety Promotion* 2003;10(1-2): 11–12). It is being tested by the Cochrane Collaboration Health Equity Field as a means of evaluating the impact of interventions on health equity.

Second, the evidence brief builds in a very direct way on the issue brief we prepared and the stakeholder dialogue we convened in February 2014 on the topic of 'fostering leadership for health-system redesign in Canada,' as well as the cross-national study of the role of leadership in health-system transformation that informed the brief and dialogue.(4;14;15) The key conclusions from the five case studies that comprised the cross-national study, two of which focused on primary care (with one conducted in Ontario), can be described in relation to its three study questions (Table 2). In general terms, as we described in the national issue brief, the messages were that: 1) health leadership capacity in Canada is insufficient; 2) the 'LEADS in a Caring Environment Capabilities Framework' (which is described in Table 3, later in this evidence brief) is generally well accepted as a guide to understanding and defining health leadership, but certain capabilities (e.g., 'lead self,' 'develop coalitions,' and 'shape systems') are underdeveloped in Canada; and 3) leadership for health-system transformation can be fostered through a common approach across Canada (including a common language about leadership and a broad-based effort to engage professional, managerial and policy leaders), greater attention to succession planning, and more focused efforts to learn across provinces and from other countries (such as Australia and the United Kingdom).

Table 2: Key conclusions from the cross-national study, by study question (adapted from (14))

#	Detailed question	Select findings from the cross-case analysis (4) and the Ontario case study (16)
1	What is the current state of health leadership capacity in Canada?	• Cross-case analysis (4) o ". . .Canada does not have the leadership capacity required to lead significant health reform."
	What is working, or not working, in terms of stimulating and supporting health system transformation?	• Cross-case analysis (4) o "Canada lacks a long term and shared vision around health [reform and] leadership." o ". . . Canada is not realizing its potential because we have not embraced distributed or shared leadership models." o "Change fatigue is growing among senior leaders." o ". . . vision and engagement does not always permeate to leaders at the front line . . ." o "Canada needs to invest in a national strategy for leadership development, mentorship and succession planning, and physician/cross discipline leadership."
	What contextual factors influence effective leadership action?	• Cross-case analysis (4) o "…Canada is not realizing its potential due to the many contravening structural, cultural and political factors at play." o "A rebalancing of efforts between our collective ability to work together and the forces of fragmentation is desired. Currently the 'tug' forces outweigh the 'hug' ones." o "Some informants believe there that there is individual capacity inherent in the system, but that it is sprinkled sparsely throughout, and held back from realizing its promise because of many intervening structural, cultural, and political factors that delimit the ability of leaders to be effective." • Ontario (16) o "When there's an alignment of policy, vision resource allocation, and local initiatives exists – from public service to front-line – effective change can happen."
2	Where are the gaps between current practices, the evidential base in the literature, and the expectations for leadership outlined in the emerging health leadership capability/competency frameworks (e.g., LEADS	• Cross-case analysis (4) o "The LEADS in a Caring Environment leadership capabilities framework is being seen as a unifying force…. Four out of the six case studies (with the exception of Quebec and B.C.) showed LEADS being increasingly accepted as the leadership framework." o "Some leadership capabilities were found to be less strong across the nodes, especially 'Systems transformation'." o "The capabilities of 'Lead self' and 'Develop coalitions' seem to be

	capabilities framework)?	underweighted ….” • Ontario case (16) o “. . . local leaders focused on system transformations … developed coalitions and [led] self.”
	How might a set of national standards for leadership be structured?	• Cross-case analysis (4) o “Some consensus around common leadership capabilities needed for reform [was] identified,” including: 1) emotional intelligence; 2) enlightened self-interest; 3) commitment; 4) character; 5) vision; 6) resilience; 7) champion for change; 8) complexity theory and systems thinking; 9) role model and mentor; 10) team-building/teamwork; and 11) effective two-way communication. o LEADS is “generally supported”, “four out of the six case studies … showed LEADS being increasingly accepted as the leadership framework,” and “there is also optimism about prospects for a more distributive approach to leadership and growing adoption of a common [vision] for health, by health leadership platform across the country (i.e. LEADS).”
3	How can knowledge of effective leadership be translated and mobilized by the network into approaches, programs, tools and techniques to develop a culture of effective leadership in Canada, and enhance the development of quality health leaders?	• Cross-case analysis (4) o Canada should learn from system-wide efforts to improve leadership in Australia and the United Kingdom. o “It is hard to envisage a true distributed leadership system without a common language around leadership.” o “A renewed focus on clinical leadership and to redouble mentoring/coaching efforts in support of the next generation of health leaders is required . . ..” o “There should be focus on succession planning and leadership development.”

As a complement to the key conclusions from the cross-national study, the national issue brief also presented preliminary results from a national health leadership benchmarking study, which include:

- a response rate of 58% (65/113) across the two sample frames (members of the Association of Canadian Academic Healthcare Organizations and members of the Canadian Health Leadership Network/Health Action Lobby);
- only one-third (32%) of respondents indicated that their organization has the leadership capacity to respond to future challenges and reforms;
- just over half (54%) rated the leadership gap to be small-to-medium in size and see it more as a skills gap than a supply/demand gap;
- almost two-thirds (65%) rated the skills gap as important or very important;
- about two-fifths (38%) indicated that they protect time for leadership development;
- less than one-third (29%) rated their satisfaction with their organization’s leadership development programs as satisfied or very satisfied;
- the same fraction (30%) rated their satisfaction with their organization’s leadership-development budgets as satisfied or very satisfied;
- just less than half (47%) reported having adopted LEADS or another leadership-development framework;
- about two-fifths (39%) reported having a formal approach to succession planning; and
- about two-fifths (38%) reported having a formal process to identify emerging leaders. (17)

Given the sample frames are both likely to include a much higher proportion of acute-care organizations than primary- and community-care organizations, and the acute-care sector’s historically greater financial flexibility and incentives to invest in leadership, at least some of these percentages may be lower in Ontario’s primary- and community-care sectors. The final results of the national benchmarking study will be available from the Canadian Health Leadership Network shortly after the stakeholder dialogue.

Additional conclusions from the cross-national study (and the national issue brief that summarized them) pertain to sub-capabilities in the 'LEADS in a Caring Environment Capabilities Framework' (Table 3), which were generally affirmed (or occasionally unaddressed) by the study.

Table 3: 'LEADS in a Caring Environment Capabilities Framework'* (adapted from (14))

Capability	Sub-capability	Detail about sub-capability
Lead self	Self-motivated leaders	
	• Are self aware	They are aware of their own assumptions, values, principles, strengths and limitations
	• Manage themselves**	They take responsibility for their own performance and health
	• Develop themselves**	They actively seek opportunities and challenges for personal learning, character building and growth
	• Demonstrate character	They model qualities such as honesty, integrity, resilience and confidence
Engage others	Engaging leaders	
	• Foster development of others§	They support and challenge others to achieve professional and personal goals
	• Contribute to the creation of healthy organizations**§	They create engaging environments where others have meaningful opportunities to contribute and ensure that resources are available to fulfil their expected responsibilities
	• Communicate effectively	They listen well and encourage open exchange of information and ideas using appropriate communication media
	• Build teams§	They facilitate environments of collaboration and cooperation to achieve results
Achieve results	Goal-oriented leaders	
	• Set direction§	They inspire vision by identifying, establishing and communicating clear and meaningful expectations and outcomes
	• Strategically align decisions with vision, values and evidence**	They integrate organizational missions and values with reliable, valid evidence to make decisions
	• Take action to implement decisions	They act in a manner consistent with the organizational values to yield effective, efficient, public-centred service
	• Assess and evaluate**	They measure and evaluate outcomes, compare the results against established benchmarks, and correct the course as appropriate
Develop coalitions	Collaborative leaders	
	• Purposefully build partnerships and networks to create results**	They create connections, trust and shared meaning with individuals and groups
	• Demonstrate a commitment to customers and service§	They facilitate collaboration, cooperation and coalitions among diverse groups and perspectives aimed at learning to improve service
	• Mobilize knowledge**	They employ methods to gather intelligence, encourage open exchange of information, and use quality evidence to influence action across the system
	• Navigate socio-political environments**§	They are politically astute, and can negotiate through conflict and mobilize support
Shape systems (as a variant of 'Systems transform-ation')	Successful leaders	
	• Demonstrate systems/critical thinking	They think analytically and conceptually, questioning and challenging the status quo, to identify issues, solve problems and design and implement effective processes across systems and stakeholders
	• Encourage and support innovation**	They create a climate of continuous improvement and creativity aimed at systemic change
	• Orient themselves strategically to the future**	They scan the environment for ideas, best practices and emerging trends that will shape the system
	• Champion and orchestrate change§	They actively contribute to change processes that improve health service delivery

*The contents of the table were reproduced (with only minor edits) with permission from representatives of two of LEADS' three co-developers (Bill Tholl from the Canadian Health Leadership Network and Graham Dickson from Royal Roads University)
** Unaddressed by the cross-case analysis
§Confirmed explicitly in the Ontario case study

In summary, the demands for strong leadership capacity (as well as strong management and governance capacity) in Ontario's primary- and community-care sectors have likely never been greater, and insufficient leadership capacity was found in both a cross-national study that included two primary-care cases (of the five cases examined) and a national benchmarking study that drew disproportionately on organizations from a sector that has historically had greater financial flexibility and incentives to invest in leadership than the primary- and community-care sectors. Of course, some might argue that leadership will flourish *after* the five strategic directions articulated by the Primary Healthcare Planning Group have been achieved,(11-13) and we have a system with: 1) aligned goals, measures and priorities; 2) strengthened governance to support horizontal and vertical integration; 3) a patient-centred approach; 4) effectively harnessed accountability levers and incentives; and 5) continuously improving quality. But exceptionally strong leadership capacity (and strong management and governance capacity) will be needed at multiple levels and at the interface between these levels to achieve all of these strategic directions in the primary-care sector, and to achieve corresponding strategic directions that are appropriate to the community-care sector.

Key features of the health-system context in Ontario

The following key features of the health-system context in Ontario are particularly germane to improving leadership capacity in primary and community care in Ontario:

- stewardship of the health system is primarily the responsibility of the provincial government, although the federal government has available to it certain policy levers to foster leadership and/or spur health-system transformation, such as transfer payments, setting priorities for research funding, and acting as a facilitator for collaborative pan-Canadian initiatives;
- the Ontario government has devolved responsibility for decisions related to the planning, funding and integration of most types of healthcare to LHINs, however, acute care is more the focus of planning and funding than integration (compared to some other provinces where, for example, hospital governing boards were replaced by a single regional governing board), and LHINs in turn allocate funding for home care (e.g., nursing care, personal support/homemaking, and rehabilitation) to Community Care Access Centres that provide care coordination and case management, and award contracts for direct service provision to home-health and social-care service providers through a competitive procurement process (and LHINs have only recently introduced primary-care leads who can act as champions for the development of primary care within their region);
- provincial governments have retained responsibility for decisions related to the remuneration of physicians who, for the most part, continue to work in private practice, often with fee-for-service payment, but with a growing trend in primary care toward blended-remuneration methods that include some form of capitation payment;(18)
- community-care organizations vary dramatically in corporate structure (e.g., private for-profit and private-not-for-profit), size (e.g., a small mental health support agency versus a large Community Health Centre), financial and human resources, and other characteristics; and
- some community-governed primary-care organizations (i.e., Aboriginal Health Access Centres, Community Health Centres, Community Family Health Teams, and Nurse Practitioner-led Clinics) may share more in common with some private not-for-profit community-care organizations than they share with many physician-led primary-care practices.

THE PROBLEM

The problem of insufficient leadership capacity in Ontario's primary- and community-care sectors can be understood in relation to four contributors to the problem:

1) links between leadership, its antecedents and its consequences have not been well established;
2) leadership programs and initiatives aren't yet getting us to where we need to be;
3) existing health-system arrangements complicate the situation significantly; and
4) progress is being made, but slowly.

While these factors are broadly similar to those described in the national issue brief focused on leadership capacity across all sectors, the challenges tend to be even greater in Ontario's primary- and community-care sectors.

Box 3: Mobilizing research evidence about the problem

The available research evidence about the problem was sought from a range of published and "grey" research literature sources. Published literature that provided insights into alternative ways of framing the problem was sought using the qualitative research "hedge" in MedLine. Grey literature was sought by reviewing the websites of a number of Canadian and international organizations.

Priority was given to research evidence that was published more recently, that was locally applicable (in the sense of having been conducted in Canada), and that took equity considerations into account.

Links among leadership, its antecedents and its consequences have not been well established

One contributor to the problem is that we have a limited understanding of the links among leadership, its antecedents and its consequences:

- factors and strategies → leadership → objectives being met → improved outcomes

Most people care about leadership, not for its own sake, but for the health-system goals it can achieve. And if they care about leadership, they want to know the factors that influence it, and the strategies that can enhance it, in their respective sectors.

We summarize in this section what is known from systematic reviews about:

- the factors associated with successful leadership at the organization level and strategies to enhance leadership capacity;
- the impact of leadership on healthcare organizations' ability to meet their own objectives and contribute to health-system objectives; and
- the impact of leadership on key health-system goals, namely the patient experience of care, the health of populations and the per capita cost of healthcare (i.e., the 'Triple Aim' dimensions).

In short, we know very little about any of these topics in relation to the primary- and community-care sectors. Of the five, 10 and six systematic reviews we identified on each of these topics, respectively, only two (of the 127) studies, six (of the 191) studies and five (of the 105) studies included in these reviews, again respectively, were conducted in these two sectors. We provide a summary of the reviews below, however, readers pressed for time can skip to the next subsection header.

Five systematic reviews addressed the factors associated with successful leadership at the organization level, and strategies to enhance leadership capacity. As we described in the national issue brief, three systematic reviews identified the factors positively associated with successful leadership at the organization level (with one high-quality review and one medium-quality review emphasizing a broad range of factors, such as select leadership styles, organizational climate and structure, and performance feedback and educational activities, while the same high-quality review and another medium-quality review singled out emotional intelligence as key) (Table 4). No systematic reviews have been conducted to identify the factors associated with successful leadership at the system level. Two systematic reviews identified strategies to enhance leadership capacity (with one medium-quality systematic review finding that incorporating guidelines, audit and quality-improvement techniques in medical school curricula was highly valued by medical students, while another medium-quality review found that organizational approaches such as strategic planning and employing change theory was associated with enhanced leadership capacity in long-term care).(19) For those who want to know

more about the systematic reviews contained in Table 4 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 1.

Table 4: What is known from systematic reviews about the factors associated with successful leadership and/or strategies to enhance leadership capacity (adapted from (14))

Potential outcomes	Factors and strategies
Successful leadership at the organizational level	Factors positively associated with the outcome • One high-quality review and one medium-quality review found that successful nursing leadership at the organizational level was associated with the following factors: o leadership styles that include being facilitative and modelling desired behaviours; o higher levels of education; o length of time in a leadership role, and being older; o managerial competencies and personality traits such as openness, extroversion and motivation; o organizational climate and structure that enable leaders to better support their staff; and o performance feedback and educational activities (both formal and informal) as well as professional development activities and multi-professional collaboration.(20;21) • One high-quality review and one medium-quality review found emotional intelligence to be associated with positive nursing leadership outcomes.(21;22) Factors negatively associated with the outcome • No harms were identified in any of the systematic reviews
Successful leadership at the level of the health system	No systematic reviews were found
Improvement in leadership capacity at the organization or system level	Strategies that may positively affect the outcome • One medium-quality review found that when included in medical school curricula, guidelines, audit and quality-improvement techniques were valued by medical students and, in general, students had positive attitudes towards multidisciplinary teams and believed that doctors should lead these teams.(23) • One medium-quality review found that a variety of organizational approaches – strategic planning, budgetary planning, human resource recruitment and retention strategies, supervision and mentoring, employing change theory, policy development and regulatory compliance – were associated with enhanced leadership capacity in long-term care.(19) Strategies that may negatively affect the outcomes • No harms were identified in any of the systematic reviews Other • One medium-quality review also found that there is a current lack of emphasis on leadership and management within medical education.(23)

Ten systematic reviews addressed the impact of leadership on healthcare organizations' ability to meet their own objectives and contribute to health-system objectives. The systematic reviews suggest that leadership may have a measurable impact on healthcare organizations' ability to meet their own objectives (with two high-quality reviews speaking most directly to the positive influence of select leadership styles/behaviours and strong leadership on the working environment and quality improvement, respectively), and contribute to health-system objectives (with one medium-quality review speaking to the positive influence of leadership and communication on collaboration among leaders in primary care and public health) (Table 5). For those who want to know more about the systematic reviews contained in Table 5 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 2.

Table 5: What is known from systematic reviews about the effects of leadership on the achievement of organizational and system objectives (adapted from (14))

Potential outcomes	Observed benefits or harms based on systematic reviews
Health care organizations' ability to meet their own objectives	Benefits • One high-quality review found that certain leadership styles and behaviours (motivation, consideration, trust, flexibility, respect and support) helped to create a healthy working environment.(21) • One high-quality review found that strong leadership was strongly associated with high-performing projects, a team's perception of success, and team effectiveness, and is one of the factors most consistently associated with quality-improvement success.(24) • One medium-quality review found that relationally focused nursing leadership was associated with more positive work environment outcomes than task-focused nursing leadership.(25) • One medium-quality review found that nursing leadership has an indirect role in influencing nurses' motivation to perform through four factors, including autonomy, relationship building, resource accessibility and nursing leadership practices.(26) • One medium-quality review found that leadership involvement in quality-improvement collaboratives can help ensure progress towards meeting the goals of these approaches, and quality-improvement collaboratives may contribute to change sustainability, overcoming implementation barriers, promoting continuous learning, and fostering inter-organizational support.(27) • One low-quality review found that the leadership role of senior management is essential for quality and safety improvement, and a lack of leadership was associated with low-quality services.(28) • One low-quality review found that enhanced leadership and staff training may facilitate successful implementation of accreditation programs in public hospitals.(29) • One low-quality review found that leadership development programs may facilitate organizational technology adoption, and facilitate network development, increasing tacit knowledge exchange.(30) • One review in progress will assess the impact of leadership on health information technology adoption in healthcare-providing organizations, although the results have not yet been published.(31) Potential harms • No harms were identified in any of the systematic reviews Uncertainty regarding benefits and harms • One medium-quality review found little evidence to support the importance of leadership skills for nursing-home nurses.(19) • One low-quality review found that there was no substantial evidence supporting lasting effects and changes in organizational cultures after introducing the Six Sigma, Lean/Toyota Production System, and Studer's Hardwiring Excellence strategies in healthcare organizations.(32)
Health care organizations' ability to contribute to health-system objectives	Benefits • One medium-quality review found that leadership and communication can lead to strong collaboration between leaders in primary care and public health, which may lead to improvements in health-related outcomes, health access and reductions in disparities.(33) • One low-quality review focused on implementing clinical information systems found that there is some evidence to suggest clinical leadership is instrumental in implementing interventions in the healthcare system.(34) Potential harms • No harms were identified in any of the systematic reviews

Six systematic reviews addressed the impact of leadership on key health-system goals. Systematic reviews suggest that leadership can have a measurable impact on the patient experience (with one high-quality review speaking most directly to the positive influence of select leadership styles on patient quality of life) and improving health (with one medium-quality review speaking most directly to the positive influence of some types of leadership on the health of patients, if not populations), however, this is not a particularly robust evidence base (Table 6). As well, no systematic reviews have addressed the influence of leadership on the per capita cost of healthcare. For those who want to know more about the systematic reviews contained in Table 6 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 3.

Table 6: What is known from systematic reviews about the effects of leadership on achieving each of the 'Triple Aim' dimensions* (adapted from (14))

Potential outcomes	Observed benefits or harms based on systematic reviews
Improving the patient experience of care (including quality and satisfaction)	Benefits • One high-quality review found that participatory, consultative, transformational and transactional nursing leadership styles were all associated with patient quality of life (with the transformational style associated with the most positive outcomes).(21) • One high-quality review found that fostering joint professional responsibility and teamwork may improve patient safety.(35) • One high-quality review found that local opinion leaders may successfully promote evidence-based practice, although with varied effectiveness.(36) • One medium-quality review found significant evidence to suggest a positive association between positive nursing leadership behaviours, styles or practices and increased patient satisfaction, and also found that the positive effects of nursing leadership on patient satisfaction declined as nurse leaders' span of control widened (i.e., increases in the total number of staff reporting directly to the manager.(37) An update of the review found the same results.(38) • One medium-quality review found that task-oriented nursing leadership was associated with family satisfaction with resident care, and manager support was associated with lower patient length of stay.(38) • One medium-quality review found that emotionally intelligent nursing leadership was associated with productive assessments of the emotional side of patients.(22) • One low-quality review found that clinician leaders play a role in improving healthcare provision, albeit with limited influence, and that the leadership of senior management is essential for quality and safety improvement.(28) Potential harms • No harms were identified in any of the systematic reviews
Improving the health of populations	Benefits • One medium-quality review found that adverse events and complications in nursing home residents were reduced with positive nursing leadership behaviours, and that transformational and resonant leadership were associated with lower patient mortality.(37) • One medium-quality review found moderate evidence to suggest that leadership is associated with job well-being and employee health.(39) Potential harms • No harms were identified in any of the systematic reviews
Reducing the per capita cost of healthcare	No systematic reviews were found

*Source: http://www.ihi.org/offerings/initiatives/tripleaim/pages/default.aspx

Leadership programs and initiatives aren't yet getting us to where we need to be

There is a wide variety of leadership programs and initiatives in Canada to which Ontario-based individuals have ready access (Table 7). However, they primarily target:

- leaders in positions of administrative authority, not potential future professional leaders (with LEAD and CanMEDS being exceptions) or emerging leaders (with the Canadian College of Health Leaders and Emerging Health Leaders being examples of exceptions), which is all the more important to note given the age distribution of existing leaders;
- physician leaders (with the Physician Management Institute) and to a lesser extent nursing leaders, not leaders in other health professions;
- clinical, administrative and policy leaders in hospitals, LHINs and government, not leaders in governance (with the Effective Governance for Quality and Patient Safety Program and the Institute of Corporate Directors being examples of exceptions);
- individual leaders primarily interested in developing their own leadership capabilities, not leaders interested in collaboratively developing leadership capabilities and undertaking a supported health-system transformation project (with Improving and Driving Excellence Across Sectors and the Executive Training for Research Application program being examples of exceptions);
- individual leaders, not interprofessional team leaders (with the Dorothy Wylie Nursing/Health Leaders Institute being an example of an exception) or interprofessional teams (with the Executive Training for Research Application program being an example of an exception); and
- individuals, not organizations seeking to put in place key leadership responsibilities (with Accreditation Canada being an example of an exception).

Table 7: Examples of leadership programs and initiatives in Canada to which Ontario-based individuals have ready access* (adapted from (14))

Audience focus (jurisdictional focus)	Sponsor	Program (if applicable)	Activities
Future physician leaders	University of Toronto	Leadership Education and Development (LEAD)	• Six graduate courses and two summer-long practicum experiences for medical students enrolled in the program
Future physician specialist leaders (and by extension future family medicine leaders)	Royal College of Physicians and Surgeons of Canada	CanMEDS	• Existing CanMEDS (2005) framework for physician specialty training includes some leadership competencies in the manager role and may in 2015 include a new leadership role
Nursing leaders (Ontario)	Registered Nurses' Association of Ontario	N/A	• Annual conference on nurse executive leadership • Guideline on developing and sustaining nursing leadership(40)
Nursing leaders (national)	Academy of Canadian Executive Nurses	N/A	• Membership-based association that seeks to support the development of current and emerging executive nurse leaders
Physician leaders (Ontario)	Ontario Medical Association	Physician Leadership Development Program	• Short face-to-face course that includes an independent project, readings and executive coaching
Physician leaders (national)	Canadian Medical Association	Canadian Society of Physician Executives	• Annual conference on physician leadership • Short face-to-face courses • Leadership certification (see Table 9)

	Canadian Medical Association	CMA Coaching Connections	• Personalized leadership coaching
	Canadian Medical Association	Physician Management Institute	• Short face-to-face courses • Short online courses through the American College of Physician Executives
Professional and managerial leaders (Ontario)	Improving and Driving Excellence Across Sectors (IDEAS)	N/A	• One two-day and one nine-day face-to-face course on quality improvement, change management and leadership, coupled with an improvement-project activity
Interprofessional (nursing and health) leaders	Dorothy Wylie Nursing/Health Leaders Institute	N/A	• Two-part, seven-day, inter-professional, residential leadership program
Interprofessional health leadership teams (national)	Canadian Foundation for Healthcare Improvement	Executive Training for Research Application	• Fourteen-month combined face-to-face and online, team-based and improvement-project-centred training
Future health leaders (national)	Universities across Canada	Health administration, management and leadership training programs**	• Undergraduate and graduate degrees in health administration, management and leadership
	Universities across Canada	Health administration, management and leadership training programs	• Short courses in health administration, management and leadership (e.g., Advanced health leadership program)
All emerging health leaders (national)	Emerging Health Leaders	Canadian Health Leadership Network (see below)	• Mentoring • Educational events
Emerging and current senior community health leaders	Rotman Executive Programs	Community Health Leadership Program	• Five-day leadership program
Emerging and current senior health leaders	Rotman Executive Programs	Advanced Health Leadership Program	• Three-week leadership program (in three five-day modules)
All health leaders (national)	Canadian College of Health Leaders***	N/A	• Short online courses • Mentorship • National health leadership conference (in partnership with the Canadian Healthcare Association – see below) • Awards for excellence in health leadership • Fellowship designation • Leadership certification (see Table 9)
	Canadian Foundation for Healthcare Improvement	E-learning and workshops focused on healthcare improvement	• 90-minute live webinars • Online workshops that combine live webinars with supported independent study • One-day face-to-face 'Improvement workshops' • Two-day face-to-face workshop seminars (in partnership with the Institute for Healthcare Improvement)
	Canadian Healthcare Association (now merged with the	CHA Learning	• Range of online courses that combine home-study units and webinars, including on health governance

	Association of Canadian Academic Healthcare Organizations)		
	Canadian Health Leadership Network	N/A	• Dialogue and engagement about health leadership • Research, knowledge mobilization and evaluation about health leadership • LEADS framework and tools promotion • Health leadership strategy development
All hospital leaders (Ontario) (and by extension other leaders)	Ontario Hospital Association	N/A	• Governance conference, course and guide (through the Governance Centre for Excellence) • Leadership competency models
All board members and leadership teams (national)	Canadian Foundation for Healthcare Improvement and Canadian Patient Safety Institute	Effective Governance for Quality and Patient Safety Program	• Toolkit • Educational session
All board members (national)	Institute of Corporate Directors with five business schools	Directors Education Program	• Twelve-day face-to-face course (not health system specific)
Public servants (provincial)	Ontario Public Service	Building Leadership Capacity in the Ontario Public Service	• Leader/manager competencies • Leadership development programs • External executive leadership education programs • Developmental assignments/projects • External assessments • Emotional intelligence assessment • Coaching/mentoring
All health organizations (national)	Accreditation Canada	Leadership standards	• Key leadership responsibilities that organizations must have in place, namely: 1) creating and sustaining a caring culture; 2) planning and designing services; 3) allocating resources and building infrastructure; and 4) monitoring and improving quality and safety

*note that the contents of this table were derived from website reviews (not direct contact with each organization or program) and that the search was focused primarily on the health sector (even though there are some leadership-development programs, such as the one developed as a partnership between the Ministry of Children and Youth Services and the Rotman School of Management, that may be highly relevant to some in the primary- and community-care sectors)

**search under: 1) 'Business, management, marketing and related support services' for 'Hospital administration/management,' 'Non-profit/public/organizational management' or 'Organizational leadership'; 2) 'Health professions and related clinical sciences' for 'Health services administration' or 'Medical/health management and clinical assistant/specialist'; or 3) 'Public administration and social service professions' for 'Public administration' or 'Public policy analysis'

***previously the Canadian College of Health Service Executives

Moreover, these leadership programs and initiatives typically:

- do not explicitly target primary- and community-care leaders (with an example of an exception in the community-care sector being the newly launched Community Health Leadership Program at the Rotman School of Management) and do not address the time and resource constraints faced by these individuals;
- are voluntary and not required for certification, except for those individuals who choose to participate (again voluntarily) in one of Canada's three leadership-certification programs (Table 8);
- do not use common leadership frameworks or curricula, except for a small number of organizations now using the LEADS framework,(41) such as the Canadian College of Health Leaders and Canadian Medical Association which, as members of CHLNet, helped to develop the framework;

- do not make publicly available on their websites any formative or summative evaluations; and
- are not captured through any continuously updated inventory of leadership programs and initiatives.

As such, these programs and initiatives do not yet appear to be getting us to where we need to be.

Table 8: Leadership certifications available in Canada (adapted from (14))

Primary focus	Certification	Sponsor
Physician leaders	Canadian Certified Physician Executive	Canadian Medical Association and Canadian Society of Physician Executives
All health leaders	Certified Health Executive	Canadian College of Health Leaders
All corporate directors	ICD.D	Institute of Corporate Directors

The situation in Canada contrasts sharply with the situation in Australia (which boasts Health Workforce Australia's Leadership for Sustainable Change program) and in England (which boasts the NHS Leadership Academy).

Existing health system arrangements complicate the situation significantly

A variety of existing delivery, financial and governance arrangements contribute to the problem and make it difficult to establish the magnitude of the problem, undertake initiatives to address it, and track progress in addressing it.

Examples of complicating delivery arrangements in leadership development in Ontario, and in Canada more generally (as we documented in the national issue brief), include:

- lack of agreement about the terminology, frameworks, curriculum standards and performance metrics for leadership-development programs and initiatives (in a context of competition, not collaboration, among programs and initiatives);
- no centralized tracking system exists for education and continuing professional development related to leadership (e.g., what could be called an Ontario or Canadian 'leadership passport'), although there are systems maintained by membership organizations (such as the Canadian College of Health Leaders) that track completion of their own leadership-development courses;
- no continuously updated database exists with which to monitor leadership capacity (e.g., number, training and age of leaders), which stands in contrast to the situation for the physicians, nurses and other health professionals (for whom databases are maintained by the Canadian Institute for Health Information), and the two previous leadership gap analyses, which were conducted in 2007 (by the Conference Board of Canada) and in 2013 (by the Canadian Health Leadership Network, as reported earlier in the evidence brief), did not include meaningful numbers of primary- and community-care organizations;
- no efforts are underway to support the type of needs-based human-resource (leadership) planning that exists for health professionals;
- few sector-wide opportunities exist to recognize and celebrate exemplary leadership in primary and community care; and
- limited research and knowledge-translation capacity exists in the field of health leadership, and this capacity is not coordinated through one or more centres of excellence.

Delivery arrangements within the health system also complicate matters in five key ways:

- physicians remain a dominant provider group in the primary-care sector with more autonomy and higher incomes than most other provider groups, which makes it easier for them to choose whether and how to pursue leadership-development opportunities;
- the primary-care sector (according to the Primary Healthcare Planning Group) lacks an aligned set of goals, measures and priorities, a patient-centred approach, and continuous quality-improvement processes,(11-13) all of which can appear as higher-order priorities than investing in leadership development;

- the community-care sector functions under a competitive model, which can hinder efforts to develop and sustain coalitions capable of system transformation;
- models of shared leadership between those in administrative positions and those working in professional (e.g., medical) roles are typically informal and evolving in an unplanned way; and
- policy leaders turn over quickly (for a wide variety of reasons, including elections, career progression and blame avoidance, among others), making it difficult for professional and administrative leaders to undertake health-system transformation over long periods of time and to sustain it.

Two existing financial arrangements also complicate efforts to improve leadership capacity in primary and community care:

- physicians differ in whether they need to pay for leadership development out of their professional income or can access funding through provisions in physician-services agreements; and
- primary- and community-care organizations are paid primarily for service volume and they differ in whether they need to pay for leadership development out of their professional-care budgets (with the opportunity cost seen as being reductions in patient care) or from a dedicated funding pool, and in their degree of certainty that they will reap the benefits directly (with the spillover effects to the rest of the system discounted).

Lastly, a set of unique governance arrangements complicate efforts in this domain:

- decision-making about primary and community care is relatively decentralized in Ontario, yet with significant interconnections among professional, administrative and policy authority, little current centralizing influence, and no widely endorsed vision beyond Health Links for how the two sectors should pursue integration (or approach leadership development to achieve a vision);
- organizational authority for ensuring that leadership development in general and coaching, mentoring and succession planning in particular is in place for leaders at all organizational levels in Ontario's primary- and community-care sectors, is difficult to establish in small organizations, neither explicit nor concentrated in a single role (e.g., chief talent officer) in large organizations, and not supported by an organization that is analogous to Health Workforce Australia or the NHS Leadership Capacity (in England);
- the primary-care sector (again according to the Primary Healthcare Planning Group) lacks the governance needed to support horizontal and vertical integration, and lacks effectively harnessed accountability levers and incentives;(11-13) and
- policy authority for physician-provided care is highly concentrated in provincial health ministers and select other senior leaders, which ensures that primary-care issues are highly visible and that any failures to address such issues are highly traceable to single elected officials (which creates political pressure for scapegoating and other behaviours that challenge leaders located outside government).

Progress is being made, but slowly

All of this said, there are some 'bright spots on the horizon.' The Canadian Health Leadership Network (CHLNet), a network of 37 provincial and national organizations, has endorsed the use of the 'LEADS in a Caring Environment Framework' as a pan-Canadian approach to supporting Canadian health leaders (although its uptake has not yet been documented), and has committed to develop a Canadian Health Leadership Strategy.(17;41) CHLNet has also partnered with the Canadian College of Health Leaders to develop a not-for-profit support system for health organizations that use LEADS for comprehensive leadership-talent management. As well, participants in our stakeholder dialogue about fostering leadership capacity in Canada, which included a number of individuals from Ontario, have committed to undertake concrete actions to improve the situation.(15)

Additional equity-related observations about the problem

One additional dimension of the problem that warrants additional discussion is how the groups prioritized in this brief – emerging clinical/professional leaders (particularly those challenged by the transition from clinical/professional leadership positions to organization-, sector and/or system-level leadership positions) and leaders with responsibility in/for rural and remote areas – may be disproportionately affected by aspects of the problem or its causes. Here we can draw on the analysis conducted for the national issue brief.

One of the contributors to the problem identified above is that links among leadership, its antecedents and its consequences have not been well established, and this is particularly true for the prioritized groups, given that we found only three systematic reviews that specifically focused on them when looking for research evidence about leadership, its antecedents and consequences. Related to what is known about the factors associated with successful leadership or about strategies to enhance leadership capacity (addressed in Table 4), one high-quality review was found that included studies focused on emerging clinical/professional leaders as well as those with responsibility in rural and remote areas, and it found that providing mentorship to staff can lead to professional growth, and is an essential attribute that a leader requires in order to assist the development of staff.(21) A low-quality review that addressed the effects of leadership on organizational and management outcomes (addressed in Table 5) focused on determining whether the Six Sigma, Lean/Toyota Production System, and Studer's Hardwiring Excellence transformational strategies resulted in positive organizational transformation.(32) This review included several studies that focused on how these strategies engage potential clinical/professional leaders, often those in the early stages of their careers and under direct supervision from senior members of clinical staff, and it concluded that these approaches resulted in positive organizational transformation (particularly cultural). Finally, a medium-quality review that focused on how leadership contributed to achieving the 'Triple Aim' dimensions and included a study that focused on emerging clinical/professional leaders found that certain leadership styles, such as communication openness, formalization, participation in decision-making and relationship-oriented leadership, were associated with improved patient satisfaction and outcomes.(37).

Unfortunately no systematic reviews addressed the other contributors to the problem among the two prioritized groups.

THREE OPTIONS TO ADDRESS THE PROBLEM

A variety of approaches could be used to address the problem of insufficient leadership capacity in primary and community care in Ontario. Working with the Steering Committee we identified three options:

1) develop, disseminate and support the use of a toolkit to support leadership development in primary and community care (i.e., better publicize what we've got);
2) convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care (i.e., push for something better in Ontario); and
3) identify current and emerging leaders in primary and community care and support their participation in a national leadership initiative (i.e. push for something better in Canada that works for Ontario's primary- and community-care sectors).

The options are not mutually exclusive so none, one, two or all of them could be selected. If more than one were selected, key points for deliberation would include whether to give chosen options the same or different emphasis, and whether to pursue them simultaneously or in a sequenced fashion.

Regrettably none of these options have been the principal focus of a systematic review of the research literature, although one of the elements of option 1 was the focus of three high-quality systematic reviews. The remaining systematic reviews that relate in some way to each option element are often of indirect interest and of low or medium quality. As well, each option brings with it a set of implementation challenges, which are the focus of the next section. All of this said, decisions can and often need to be made without supportive research evidence, and in this case these decisions can be informed by the tacit knowledge, views and experiences of dialogue participants. Ideally such decisions will be subjected to the monitoring of their implementation and evaluation of their impacts.

Box 4: Mobilizing research evidence about options to address the problem

The available research evidence about options was sought primarily from Health Systems Evidence (www.healthsystemsevidence.org), which is a continuously updated database containing more than 3,800 systematic reviews and nearly 2,000 economic evaluations about delivery, financial and governance arrangements within health systems and about implementation strategies within health systems. The reviews were identified by first searching for the terms 'leadership' or 'management' (with or without the term 'capacity'). Additional reviews were identified by searching the sub-categories within the Health Systems Evidence taxonomy that most closely match each option.

The authors' conclusions were extracted from the reviews whenever possible. Some reviews contained no studies despite an exhaustive search (i.e., they were "empty" reviews), while others concluded that there was substantial uncertainty about the option (or option element) based on the identified studies. Where relevant, caveats were introduced about these authors' conclusions based on assessments of the reviews' quality, the local applicability of the reviews' findings, equity considerations, and relevance to the issue. (See the appendices for a complete description of these assessments.)

Being aware of what is not known can be as important as being aware of what is known. When faced with an empty review, substantial uncertainty or concerns about quality and local applicability, or a lack of attention to equity considerations, primary research could be commissioned or an option could be pursued and a monitoring and evaluation plan designed as part of its implementation. When faced with a review that was published many years ago, an updating of the review could be commissioned if time allows.

No additional research evidence was sought beyond what was included in the systematic review. Those interested in pursuing a particular option may want to search for a more detailed description of the option or for additional research evidence about the option.

Option 1 – Develop, disseminate and support the use of a toolkit to support leadership development in primary and community care

This option involves better publicizing what we've got. Elements of this option might include:

- develop, disseminate and support the use of a toolkit; and
- include in the toolkit
  - definitions of key concepts (see Table 1);
  - the LEADS framework (see Table 3) and what is known about it and its constituent parts;
  - inventory of leadership initiatives (Table 7) and leadership certificates (see Table 8); and
  - existing supports that encourage leadership investments.

Three high-quality systematic review were identified on the topic of developing, disseminating and supporting the use of a toolkit (Table 9), all of which suggested that printed educational materials can have some impacts, and two of which suggested that multi-faceted interventions can have greater impacts (albeit for topics and domains slightly different than leadership in primary and community care, as is the focus here). Scores of systematic reviews were identified on the topic of what's known about the constituent parts of the LEADS framework, however, the lack of clear, actionable messages arising from this literature led us to create a separate table (Table 9bis) and to make it available at the back of the evidence brief.

For those who want to know more about the systematic reviews contained in Table 9 and Table 9bis (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 4.

Table 9: Summary of key findings from systematic reviews relevant to Option 1 – Develop, disseminate and support the use of a toolkit to support leadership in primary and community care

Category of finding	Summary of key findings
Benefits	• **Develop, disseminate and support the use of a toolkit** o One high-quality review found that mass mailing printed bulletins which summarize systematic review evidence may improve evidence-based practice when there is a clear message, if the change is relatively simple to accomplish and there is growing awareness by users of evidence that change is required.(42) The same review found that multifaceted interventions may be required if the intentions are to improve awareness of systematic reviews and the skills for implementing the findings from reviews, although more evidence is needed to support this approach.(42) o A second high-quality review found that printed educational materials slightly improve healthcare professional practice compared to no intervention, but a lack of results prevent any conclusion on their impact on patient outcomes.(43) o A third high-quality review found that passive approaches, including the distribution of print materials, to facilitate the use of research evidence in public-health decision-making were found to be less effective than multi-faceted.(44) • **Include in the toolkit the LEADS framework and what is known about it and its constituent parts** o See Table 9bis at the end of the evidence brief
Potential harms	• **Include in the toolkit the LEADS framework and what is known about it and its constituent parts** o See Table 9bis at the end of the evidence brief
Costs and/or cost-effectiveness in relation to the status quo	• No economic evaluations and costing studies were found that provided information about the cost and/or cost-effectiveness of option 1 in relation to the status quo

Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	• Uncertainty because no systematic reviews were identified
	  o Include in the toolkit definitions of key concepts
	  o Include in the toolkit an inventory of leadership initiatives and leadership certificates
	  o Include in the toolkit existing supports that encourage leadership investments
	• Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review
	  o Not applicable (no 'empty' reviews were found)
	• No clear message from studies included in a systematic review
	  o **Include in the toolkit the LEADS framework and what is known about it and its constituent parts**
	  ▪ See Table 9bis at the end of the evidence brief

Key elements of the policy option if it was tried elsewhere	• **Include in the toolkit the LEADS framework and what is known about it and its constituent parts** o See Table 9bis at the end of the evidence brief
Stakeholders' views and experience	• **Include in the toolkit the LEADS framework and what is known about it and its constituent parts** o See Table 9bis at the end of the evidence brief

Option 2 - Convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care

This option involves pushing for something better for Ontario's primary- and community-care sectors. Elements of this option might include ensuring that the unique needs of these sectors are met in any effort to:

- work towards common leadership curriculum standards and a common database of leadership curriculum standards;
- analyze (or collect and analyze) data about existing leadership capacity;
- undertake periodic leadership human-resource planning; and
- establish leadership awards for the primary- and community-care sectors.

Only eight systematic reviews were identified (Table 10), all relate to the first and third option elements (i.e., standards and planning), and only three were of medium quality and the rest low quality. Even more importantly, the links to leadership were often sufficiently tenuous, so at best these reviews can help to identify issues that may need to be considered in the particular domain of leadership in primary and community care. No systematic reviews (or economic evaluations) were identified about the other option elements.

For those who want to know more about the systematic reviews contained in Table 10 (or obtain a citation for the reviews), a fuller description of the systematic reviews is provided in Appendix 5.

Table 10: Summary of key findings from systematic reviews relevant to Option 2 – Convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care

Category of finding	Summary of key findings
Benefits	• **Work towards common leadership curriculum standards and a common database of leadership curriculum standards** o A medium-quality review found that, in the short term, the inclusion of a teamwork-education component in medical student and resident training may improve attitudes, behaviours, skills and training outcomes, and suggests that the integration of more teamwork principles in medical student education would yield more effective results.(45) o A low-quality review found that adopting multifaceted approaches (e.g., workshops, short interventions and clinical interventions) for delivering palliative-care curricula are likely required to target multiple competencies such as communication skills, knowledge, and attitudes and confidence.(46) o A low-quality review found that accreditation processes have been associated with promoting change and professional development in organizational settings.(47) • **Undertake periodic leadership human-resource planning** o One medium-quality review found that the use of staffing ratios to determine appropriate staff numbers has been useful as a tool to guide planning for nursing in the acute-care sector.(48) o One low-quality review found that strategies using both extrinsic and intrinsic motivational incentives is most likely to address shortages of allied health professionals working in rural and remote areas.(49)
Potential harms	• **Work towards common leadership curriculum standards and a common database of leadership curriculum standards** o One low-quality review found that it may not be sustainable to deliver palliative care targeting a variety of competencies through workshops, short interventions or programs targeting knowledge areas and clinical or multifaceted interventions.(46)
Costs and/or cost-effectiveness	• No economic evaluations or costing studies were identified that provided information about costs and/or cost-effectiveness of option 2 in relation to the status quo

in relation to the status quo	

Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	• Uncertainty because no systematic reviews were identified
	  o Analyze (or collect and analyze) data about existing leadership capacity
	  o Establish leadership awards for the primary and community care sectors
	• Uncertainty because no studies were found despite an exhaustive search as part of a systematic review
	  o Not applicable (no 'empty' reviews were found)
	• No clear message from studies included in a systematic review
	  o **Work towards common leadership curriculum standards and a common database of leadership curriculum standards**
	  ▪ A low-quality review found that the evidence is mixed or unclear with respect to the influence of accreditation processes on professions' attitudes, broader organizational impacts, financial impacts, quality measures, program assessment, consumer views and patient satisfaction, public disclosure and surveyors.(47)
	  o **Undertake periodic leadership human-resource planning**
	  ▪ One medium-quality review found that there is a lack of evidence to support the use of staffing ratios for the allied health professions in general settings such as general hospitals and community care.(48)
	  ▪ One low-quality review found that there are a lack of studies that explicitly discuss the collection of information for human-resources information systems, leading to an inability to standardize human-resource information-system profiles.(50)

Key elements of the policy option if it was tried elsewhere	• No systematic reviews were identified that provided information that could be used to determine what key aspects of option 2 need to be considered if it was tried elsewhere

Stakeholders' views and experience	• **Develop curriculum standards for health leadership at the undergraduate and graduate level**
	  o One medium-quality review found that medical students:
	  ▪ valued guidelines, audit and quality-improvement techniques;
	  ▪ had mixed attitudes to the principles of managed care, which the authors suggest may reflect the current lack of emphasis given to leadership and management within medical education; and
	  ▪ had positive attitudes about multidisciplinary teams and believe that doctors should lead these teams.(23)
	• **Undertake periodic leadership human-resource planning**
	  o One low-quality review found that weaknesses in the areas of compensation, education and training, quality assurance and working conditions create challenges in the recruitment and retention of home-support workers in Canada.(51)

Option 3 - Identify current and emerging leaders in primary and community care and support their participation in a national leadership initiative

This option involves pushing for something better in Canada that works for Ontario's primary- and community-care sectors. Elements of this option might include ensuring that the unique needs of these sectors are met in any effort to:

- develop leadership curriculum standards for Canada;
- create a 'Canadian leadership passport;'
- encourage CIHI to establish a national leadership database;
- undertake periodic leadership human-resource planning for Canada;
- update regularly an inventory of leadership programs and initiatives in Canada; and
- expand existing Canadian leadership awards.

Only two new, low-quality systematic reviews were identified (Table 11) and both relate to encouraging CIHI to establish a national leadership database. However, both reviews focused on clinical- and health-information systems, and hence are only of indirect relevance to establishing a leadership database. No systematic reviews (or economic evaluations) were identified about the other option elements.

For those who want to know more about the systematic reviews contained in Table 11 (or obtain a citation for the reviews), a fuller description of the systematic reviews is provided in Appendix 6.

Table 11: Summary of key findings from systematic reviews relevant to Option 3 – Identify current and emerging leaders in primary and community care and support their participation in a national leadership initiative

Category of finding	Summary of key findings
Benefits	• **Develop leadership curriculum standards for Canada** o See Option 2 - 'Work towards common curriculum standards and a common database of curriculum standards' • **Encourage CIHI to establish a national leadership database** o One low-quality review found that system piloting, eliciting acceptance, use of stimulation, training and education, and provision of incentives are effective in implementing novel clinical-information systems.(34) o One low-quality review found that regional health-information systems led to better flow of information, collaboration and data exchange, improved communication and coordination within a region, better process design, and initiated changes in organizational culture, but also found that there were differences in organizational culture, vision and expectations.(52) • **Undertake periodic leadership human-resource planning for Canada** o See Option 2 'Undertake human-resource planning for leaders in the primary and community care sectors'
Potential harms	• **Encourage CIHI to establish a national leadership database** o One low-quality review found that a lack of formalized support may result in user dissatisfaction when introducing novel clinical-information systems.(34)
Costs and/or cost-effectiveness in relation to the status quo	• No economic evaluations and costing studies were found that provided information about the cost and/or cost-effectiveness of option 3 in relation to the status quo
Uncertainty regarding benefits and potential harms (so monitoring and	• Uncertainty because no systematic reviews were identified o **Create a 'Canadian leadership passport'** o **Update regularly an inventory of leadership programs and initiatives in Canada** o **Expand existing Canadian leadership awards**

evaluation could be warranted if the option were pursued)	• Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review
	  o Not applicable (no 'empty' reviews were found)
	• No clear message from studies included in a systematic review
	  o **Undertake periodic leadership human-resource planning for Canada**
	  ▪ See Option 2 'Undertake human-resource planning for leaders in the primary and community care sectors'

Key elements of the policy option if it was tried elsewhere	• No systematic reviews were identified that provided information that could be used to determine what key aspects of option 3 need to be considered if it was tried elsewhere

Stakeholders' views and experience	• **Develop leadership curriculum standards for Canada**
	  o See Option 2 - 'Develop curriculum standards for health leadership at the undergraduate and graduate level'
	• **Undertake periodic leadership human-resource planning for Canada**
	  o See Option 2 - 'Undertake human-resource planning for leaders in the primary and community care sectors'

Additional equity-related observations about the three options

Five of the systematic reviews identified in relation to the three options outlined above provided findings related to the groups prioritized for this evidence brief, namely emerging clinical/professional leaders (particularly those challenged by the transition from clinical/professional leadership positions to organization-, sector- and/or system-level leadership positions) and leaders with responsibility in/for rural and remote areas. However, none of these reviews focused primarily on the prioritized groups, and as such the insights should only be viewed as factors to consider with respect to how the options may affect the prioritized groups.

Three reviews pertained to option 1, which involves developing, disseminating and supporting the use of a toolkit to support leadership in primary and community care, and which may include aspects of the LEADS framework, what is known about it and its constituent parts as core elements. The first review pertained to the 'engage others' element of the LEADS framework.(21) This high- quality review found that certain leadership styles and behaviours (motivation, consideration, trust, flexibility, respect and support) helped to create a healthy working environment. Several of the included studies focused on the ways in which the leadership styles adopted by senior clinical leaders and organizational leaders affected their relationships with mid-level clinical leaders and nursing staff, and as such could be considered relevant to emerging clinical or professional leaders. The second review pertained to the 'achieve results' element of the LEADS framework.(37) This medium-quality review and a subsequent update of this review(38) both found significant evidence to suggest a positive association between positive nursing leadership behaviours, styles or practices, and increased patient and family satisfaction and lower patient mortality. This review also found that the positive effects of nursing leadership on patient satisfaction declined as nurse leaders' span of control widened (i.e., increases in the total number of staff reporting directly to the manager). One of the included studies in this review explored the nature of senior nursing leaders' engagement with mid-level leaders and staff (e.g., whether superiors engaged staff in decision-making processes), and the influence on patient outcomes. As such, this review provides some support for leadership styles that seek to include emerging leaders in decision-making processes as a way to improve patient outcomes. The third review related to option 1 was of low-quality and pertained to the 'system transformation' element of the LEADS framework.(32) The review found that transformational strategies such as Six Sigma, Lean/Toyota Production System, and Studer's Hardwiring Excellence are successful in improving health-related processes and outcomes, but the literature is sparse and there is little evidence on lasting effects. Given the nature of the three transformational strategies assessed, several of the studies included in the review could be considered to have some relevance to emerging clinical and professional leaders, and as such may provide limited support

for these strategies as approaches to engage emerging leaders in order to facilitate system transformation while improving processes and outcomes in the short term.

One low-quality review pertained to option 2, which involves convening a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care, and more specifically working towards common leadership curriculum standards and a common database of leadership curriculum standards. The review included two studies conducted in rural and/or remote settings and found that accreditation processes have been associated with promoting change and professional development in organizational settings, although there is uncertainty on how accreditation affects professions' attitudes, broader organizational impacts, financial impacts, quality measures, program assessment, consumer views and patient satisfaction, public disclosure and surveyors.(47) As such, while this review may provide some insights about the influence of accreditation as a way to promote change and professional development in settings that include rural or remote areas, there is much uncertainty about its influence on a broad array of factors. Furthermore, accreditation and setting curriculum standards are only loosely related, so the relevance of these findings to understanding curriculum standards for leaders in rural and/or remote settings is debatable.

The fifth and last review pertained to option 3, which involves identifying current and emerging leaders in primary and community care, and supporting their participation in a national leadership initiative, and more specifically encouraging CIHI to establish a national leadership database with which to monitor leadership capacity and to conduct periodic gap analyses. The low-quality review included one study that was conducted in a rural setting and found evidence of the importance of leadership in the successful implementation of information systems and promoting user acceptance.(34) However, establishing novel clinical information systems and leadership capacity databases are not entirely parallel efforts, so the insights that this review provides are limited.

IMPLEMENTATION CONSIDERATIONS

A number of barriers might hinder implementation of the options, which needs to be factored into any decision about whether and how to pursue any given option (Table 12). While potential barriers exist at the levels of providers, organizations and systems (if not patients/citizens, who are unlikely to be aware of or particularly interested in these options), perhaps the biggest barrier lies in making the case for a 'burning platform,' given how challenging it is to confirm (or refute) the assertion that investing in leadership will support health-system transformation and ultimately have an impact on key health-system goals in Ontario.

Table 12: Potential barriers to implementing the options

Type	Provisional / Draft Responses		
	Option 1 – Develop, disseminate and support the use of a toolkit to support leadership development in primary and community care	**Option 2 – Convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care**	**Option 3 - Identify current and emerging leaders in primary and community care and support their participation in a national leadership initiative**
General	• Challenging to confirm or refute the assertion that investing in leadership will support the achievement of health-system goals		
Option-specific	• Patient/citizen* o Patients/citizens are unlikely to be aware of such action o Patients/citizens may resist an effort that is undertaken without their input about goals	• Patient/citizen o Patients/citizens are unlikely to be aware of such action o Patients/citizens may resist an effort that is undertaken without their input about goals	• Patient/citizen o Patients/citizens are unlikely to be aware of such action o Patients/citizens may resist an effort that is undertaken without their input about goals
	• Provider o Providers may argue that action arising from the toolkit will come at the expense of front-line care	• Provider o Providers may argue that participating in leadership initiatives will come at the expense of front-line care	• Provider o Providers may argue that participating in leadership initiatives will come at the expense of front-line care
	• Organization o Primary- and community-care organizations may argue that they can't take action based on the toolkit without dedicated funding	• Organization o Primary- and community-care organizations may argue that they can't participate in leadership initiatives without dedicated funding	• Organization o Primary- and community-care organizations may argue that they can't participate in leadership initiatives without dedicated funding
	• System o Provincial primary- and community-care leaders may resist a cross-sectoral approach o Provincial policy leaders may resist any new expenditures on leadership initiatives	• System o Provincial primary- and community-care leaders may resist a cross-sectoral approach o Provincial policy leaders may resist any new expenditures on leadership initiatives	• System o Provincial primary- and community-care leaders may resist a cross-sectoral approach o Provincial policy leaders may resist any involvement in a national initiative and any new expenditures on leadership initiatives

*Note that we use the term citizen to refer to all members of the Ontario public regardless of their formal citizenship status.

On the other hand, a number of potential windows of opportunity could be capitalized upon (Table 13), which also needs to be factored into any decision about whether and how to pursue any given option. These potential windows of opportunity include a growing recognition that the demands for leadership capacity have likely never been greater, and the existence of many elements of a toolkit, a potential secretariat for a provincial committee, and a network that could identify leaders to participate in a national leadership initiative.

Table 13: Potential windows of opportunity for implementing the options

Type	Provisional / Draft Responses		
	Option 1 – Develop, disseminate and support the use of a toolkit to support leadership development in primary and community care	**Option 2 – Convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in primary and community care**	**Option 3 - Identify current and emerging leaders in primary and community care and support their participation in a national leadership initiative**
General	• Growing demands by citizens for improved patient experience and for greater value for tax dollars spent • Demands for strong leadership capacity (as well as strong management and governance capacity) in Ontario's primary- and community-care sectors have likely never been greater • Acting deputy minister continues to act as the associate deputy minister, Transformation Secretariat, and hence has a continued interest in fostering ways to support health-system transformation		
Option-specific	• This evidence brief contains many of the elements of what could comprise the toolkit (e.g., LEADS framework in Table 3, inventor of leadership programs and initiatives in Table 7) • Ministry of Health and Long-Term Care has expressed a willingness to disseminate the toolkit	• Leaders of well-funded provincial leadership initiatives (e.g., Improving and Driving Excellence Across Sectors (IDEAS) and the Community Health Leadership Program) could staff the committee	• Strategy for Patient-Oriented Research (SPOR) network focused on primary care for complex patients could support the identification of current and emerging leaders • Canadian Health Leadership Network continues seeking an opportunity to discuss an initiative at upcoming national forums

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SUPPLEMENTAL TABLE

Table 9bis: Summary of key findings from systematic reviews relevant to Option 1 - Develop, disseminate and support the use of a toolkit to support leadership in primary and community care: Option element – Including in the toolkit what is known about the LEADS framework and its constituent parts

Category of finding	Summary of key findings
Benefits	• **LEADS framework: Overall** o One medium-quality review found that modelling (demonstration of newly learned skills in the practice setting) is an important aspect of successful nursing leadership, that financial resources invested in educational programs for leadership competencies development are well placed, and that education and length of time in a leadership role are associated with increased leadership effectiveness.(20) • **LEADS framework: Lead self** o One high-quality review found that self-directed learning was associated with a moderate increase in knowledge, small non-statistically significant increases in skills, and a non-significant increase in attitudes, and self-directed learning is more effective when learners are involved in choosing learning resources, and when they are advanced.(53) o Another high-quality review found that non-technical skills training programs focusing on error reduction, communication skills, teamwork and leadership, systems dynamics and self-awareness report generally positive outcomes, although there is heterogeneity in the theoretical underpinnings of interventions and in the specific outcome measured in existing literature.(35) o One medium-quality review found that emotional intelligence is valued in nursing leaders, has a positive impact on nurses' job performance and satisfaction, and is vital to creating a supportive environment and facilitating positive empowerment processes leading to subjective well-being.(22) o A second medium-quality review found that multi-level approaches to continuing dental professional development had the most potential for impact on dental practitioners.(54) o One low-quality review found that the most effective continuing medical education programs resulted in changed physician behaviours and included multiple educational approaches such as written materials or toolkits combined with feedback and strong communication channels between instructors and learners.(55) o A second low-quality review found that multifaceted continuing professional education interventions and interventions with repeated inputs are more effective at bringing about positive changes in professional practice and health outcomes compared to traditional techniques.(56) o A third low-quality review found that while the literature on the effectiveness of continuing education is fragmented, nursing continuing education programs that involve learners through participatory approaches are more positively received when compared to didactic approaches.(57) • **LEADS framework: Engage others** o One high-quality review found that opinion leaders can successfully promote evidence-based practice, although the nature of interventions varies in the literature.(36) o A second high-quality review found that certain leadership styles and behaviours (motivation, consideration, trust, flexibility, respect and support) helped to create a healthy working environment (21), while a medium-quality review found that relationally focused nursing leadership was associated with more positive work environment outcomes than task-focused nursing leadership.(25) o A third high-quality review found interprofessional collaboration can have a positive impact on health outcomes and processes, although the small number of studies included suggests there are some limitations with this conclusion,(58) and another high-quality review found little evidence to support the effectiveness of quality and safety teams in acute-care settings.(59) o A fourth high-quality review found that bridge-building activities, positive promotions of partnership and co-location of practice can increase team bonding between biomedically trained doctors and traditional, complementary and alternative medicine practitioners, and that resources are important to build teams, enhance collaborative initiatives and increase patient access.(60) o Two additional high-quality reviews focused on the influence of communication strategies on providers:

	▪ one of the reviews found that email used with other reminders improves consistency with guideline-recommended treatments compared to normal care;(61) and ▪ the second review found that multi-component communications had the most influence on physician behaviour.(62) o One high-quality review found that group training, one-on-one training sessions and the provision of training materials can increase the uptake of information and communication technologies in healthcare settings, although the evidence base is limited.(63) o Several medium-quality reviews were identified that addressed various aspects of this option element: ▪ one review found that a variety of organizational approaches – strategic planning, budgetary planning, human resource recruitment and retention strategies, supervision and mentoring, employing change theory, policy development and regulatory compliance – were associated with enhanced leadership capacity in long-term care;(19) ▪ one review found moderate evidence to suggest that leadership is associated with job well-being and employee health;(39) ▪ one review found that interprofessional education programs may enhance attitudes of students enrolled in health-based programs at university, and improve perceptions of interprofessional collaboration and clinical decision-making;(64) ▪ one review found that interactive communication in a primary-specialist collaboration leads to consistent and clinically important effects, although the multifaceted nature of interventions studied means that positive effects cannot be attributed to interactive communication alone;(65) ▪ one review found that collaborations between general practitioners and pharmacists in medication reviews with patients is positively correlated with an increase in patient implementation of medication recommendations;(66) ▪ one review found that the range of interprofessional collaboration models are generally associated with improved patient, system and provider outcomes;(67) and ▪ one review found that training for teams of clinicians and staff can improve teamwork, improve staff attitudes, and improve technical performance and clinical operations, although the studies included in the review were weak and have several limitations.(68) o A low-quality review found that team-based initiatives to aid health professionals in a cancer care setting can result in the development of collaborations.(69) o Another low-quality review found that improved interprofessional collaboration has benefits for: ▪ healthcare providers by improving job satisfaction, perceptions about working collaboratively, knowledge and skills, practice behaviours and range of service provision; and ▪ patients with chronic disease or special needs.(70) o Another low-quality review found that team training interventions led to significant improvements in team communication and team bonding for operating room teams,(71) while another found that collaboration, conflict resolution, participation and cohesion influence staff satisfaction and perceived team effectiveness.(72) • **LEADS framework: Achieve results** o One medium-quality review found that strong leadership from top management was strongly associated with high-performing projects, a team's perception of success, and team effectiveness, and is one of the factors most consistently associated with quality-improvement success.(24) o One medium-quality review found significant evidence to suggest a positive association between positive nursing leadership behaviours, styles or practices and increased patient and family satisfaction and lower patient mortality, and also found that the positive effects of nursing leadership on patient satisfaction declined as nurse leaders' span of control widened (i.e., increases in the total number of staff reporting directly to the manager.(37) An update of the review found the same results.(38) o Another medium-quality review found that nursing leadership indirectly influences motivation to perform through autonomy, relationship building, resource accessibility and leadership practices.(26) o One low-quality review found that clinician leaders play a role in improving healthcare provision, but their influence is limited, and that leadership of senior management is essential for quality and safety improvement.(28) o Another low-quality review found that enhanced leadership and staff training may facilitate successful implementation of accreditation programs in public hospitals.(29) • **LEADS framework: Develop coalitions** o One medium-quality review found that quality improvement collaboratives can lead to improvements in quality of care, although the evidence is limited and more studies are needed to clarify the

	effectiveness and cost-effectiveness of specific components of these initiatives.(73) o Another medium-quality review found that regional collaborations for surgical care can lead to significant improvements in clinical outcomes, which improves patient care and experience.(74) o One medium-quality review found that leadership involvement in quality-improvement collaboratives can help ensure progress towards meeting the goals of these approaches, and quality-improvement collaboratives may contribute to changing sustainability, overcoming implementation barriers, promoting continuous learning, and fostering inter-organizational support.(27) • **LEADS framework: Systems transformation** o One low-quality review found that leadership development programs may facilitate organizational-technology adoption, and facilitate network development, increasing tacit knowledge exchange.(30) o Another low-quality review found some evidence to suggest that leadership is one factor that dominates in the implementation of innovations in nursing.(75) o A low-quality review found that transformational strategies such as Six Sigma, Lean/Toyota Production System, and Studer's Hardwiring Excellence are successful in improving health-related processes and outcomes, but the literature is sparse and there is little evidence on lasting effects.(32)
Potential harms	• **LEADS framework: Engage others** o One low-quality review found that deficits in communication, and in particular inconsistencies in dissemination and completion of discharge summaries, may have negative impacts on patient safety and continuity of care.(76)
Costs and/or cost-effectiveness in relation to the status quo	• No economic evaluations or costing studies were identified that provided information about costs and/or cost-effectiveness of this element in relation to the status quo
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	• Uncertainty because no systematic reviews were identified o Not applicable • Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review o Not applicable (no 'empty' reviews were found) • No clear message from studies included in a systematic review o **LEADS framework: Overall** ▪ One medium-quality review found little support for the importance of leadership skills for nursing-home nurses, and recommended that promising enhancement programs are systematically evaluated to build the evidence base.(19) ▪ One low-quality review found that evaluations of leadership are sparse, the methods of leadership evaluation are under-developed and not properly informed by theory, and as such, not many conclusions can be drawn about its consequences (i.e. whether it is effective).(77) o **LEADS framework: Lead self** ▪ One medium-quality review found that there is an insufficient number of systematic reviews of cost-effectiveness of continuing professional development programs, and no significant conclusions about cost-effectiveness of these programs can be drawn.(78) o **LEADS framework: Engage others** ▪ One medium-quality review found that there is inconclusive evidence with respect to the influence of interprofessional education on communication skills and clinical skills.(64) ▪ A low-quality review found that measuring team attributes using the team climate inventory and determining the influence of these attributes on quality of care is methodologically difficult, and results from studies conducted in the U.K. cannot be generalized.(79) o **LEADS framework: Develop coalitions** ▪ One high-quality review found that there is little evidence available to suggest that collaboration between local health and government organizations leads to improved health outcomes, and incomplete implementation may be part of the cause of the current lack of support,(80) and another high-quality review found that there is limited and partial evidence available regarding the influence of organizational partnerships on public-health outcomes so significant conclusions cannot be drawn without more evidence.(81) ▪ A medium quality review found that communities of practice in business and healthcare sectors vary significantly in their structure and characteristics, with different levels of formality, making conclusions about their effectiveness difficult to draw.(82)

Key elements of the policy option if it was tried elsewhere	• **LEADS framework: Engage others** o One medium-quality review found that the following groups of factors need to be considered to build successful collaboration (and as such should be considered when implementing this option in other settings): ▪ at the systemic level, government involvement, policy and fit with local needs, funding and resources, power and control, and education and training were influential factors; ▪ at the organizational level, a common agenda, adequate knowledge and resources, leadership, management and accountability, geographic proximity of partners and shared protocols, tools and information, are influential factors; and ▪ at the individual level, shared purpose and philosophy, clearly defined roles as well as effective communication and decision-making strategies, were found to be influential interpersonal factors.(33) o Another medium-quality review found that the following contextual factors are important in determining the appropriate interprofessional collaborative and include: leadership, political environment, knowledge, regulation, availability, willingness, and capacity.(67) o A low-quality review found that increased collaboration required resourcing and support for change and shifts in cultural attitudes, and that the characteristics of the patient groups that are the focus of collaborative efforts may create unique challenges that need to be considered.(83) o A second low-quality review found that the following are important components of teamwork in the healthcare system that need to be considered: effectiveness of teams; types of interventions, team dynamics, the impact of government infrastructure, and legislation and policy.(84) o A third low-quality review found that the type and diversity of clinical expertise involved in a decision-making team accounts for improvements in patient care and organizational effectiveness, underscoring the importance of considering the contexts in which teams are embedded.(72) • **LEADS framework: Develop coalitions** o One medium-quality review found the following factors to be important in ensuring the success of regional collaboratives for improving patient care: ▪ the establishment of trust among health professionals and health institutions; ▪ the availability of accurate, complete and relevant data; ▪ clinical leadership; ▪ institutional commitment; and ▪ methodology support for quality management.(74) • **LEADS framework: Systems transformation** o One medium-quality review found that there are many organization, provider and innovation-level constructs available to measure the implementation of health innovations, although these measures often lack validity and reliability and as such more work needs to be done to improve extant measures.(85) o One low-quality review found that there are few studies that focus on the sustainability of new programs and innovations in healthcare, although organizational context, capacity, processes and factors related to the new program or practice were found to influence sustainability in the identified literature, and that careful consideration must be given to interactions among influences among multiple levels as well as issues such as fidelity, modification and changes to implementation over time.(86) o Another low-quality review identified five 'simple rules' of large system transformation that can enhance the success of target initiatives: ▪ blend designated leadership with distributed leadership; ▪ establish feedback loops; ▪ attend to history; ▪ engage physicians; and ▪ include patients and families.(87)
Stakeholders' views and experience	• **LEADS framework: Engage others** o One low-quality review focused on the perceptions and experiences of professionals working in collaborative and integrative models of perinatal care for women with mental health issues found that increased collaboration was generally supported by professionals.(83) o A second low-quality review found that views about practitioner-managerial relationships have remained similar over time, despite many reforms in the U.K., and that these views vary between different providers, signifying the persistence of 'tribal behaviour' among the health professions.(88)

APPENDICES

The tables in the appendices provide detailed information about the systematic reviews identified for the antecedents and consequences of leadership and for each option for improving leadership capacity. Each row in a table corresponds to a particular systematic review and, in the case of reviews about options, the reviews are organized by option element (first column). The focus of the review is described in the second column. Key findings from the review that relate to the option or option element are listed in the third column, while the fourth column records the last year the literature was searched as part of the review.

The fifth column presents a rating of the overall quality of the review. The quality of each review has been assessed using AMSTAR (A MeaSurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial, or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered "high scores." A high score (8-11) signals that readers of the review can have a high level of confidence in its findings. A low score (0-3), on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

Columns 6-9 convey information about the utility of the review in terms of local applicability (i.e., the proportion of studies that were conducted in Canada), applicability concerning prioritized groups (i.e., the proportion of studies included in the review that deal explicitly with one of the prioritized groups), and issue applicability (i.e., the proportion of studies focused on leadership and on primary and/or community care). A similar approach is taken for economic evaluations and costing studies.

All of the information provided in the tables in the appendices was taken into account by the evidence brief's authors in compiling tables in the main text of the brief.

Appendix 1: What is known from systematic reviews about the factors associated with successful leadership, or about strategies to enhance leadership capacity

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Factors found to be associated with successful leadership	Strategies found to enhance leadership capacity
Factors contributing to nursing leadership: A systematic review (20)	To examine the factors that contribute to nursing leadership and the effectiveness of educational interventions in developing leadership behaviours among nurses	Studies that examined the influence of a leadership development program reported significant increases in leadership behaviours post-intervention. However, the authors noted that the positive results should be viewed with cautious optimism. Researchers pointed to the importance of modelling in a leaders' role. As leaders learn new skills, they should demonstrate, model and use these skills in the practice setting. Furthermore, there is evidence that the financial resources invested in educational programs for leadership competencies development are well placed. There is evidence that nursing leaders with higher levels of education and experience lead to increased leadership effectiveness. These results suggest the length	2006	4/9 (AMSTAR rating from Program in Policy Decision-making)	2/24	0/24	24/24	1/24	Factors that were reported to be associated with successful leadership include the following: modelling leadership behaviours, leadership style, structuring and consideration behaviours, managerial competencies, role-taking and effectiveness, previous nursing education, personality traits (openness, extroversion and motivation), leadership motivation, being older, facilitative leadership style, overall organizational climate, performance feedback, and educational activities (both formal and informal)	N/A

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Factors found to be associated with successful leadership	Strategies found to enhance leadership capacity
		of time in a leadership role and practices can promote leadership competency. Contact between leaders and followers is an important step to provide opportunities for both parties to use and develop their leadership skills.								
A comprehensive systematic review of evidence on developing and sustaining nursing leadership that fosters a healthy work environment in health care: A systematic review (21)	To appraise and synthesize the best available evidence on the feasibility, meaningfulness and effectiveness of nursing leadership attributes that contribute to the development and sustainability of nursing leadership to foster a healthy work environment	Nursing leadership is identified as a key issue in addressing the shortage of nurses. The review considered interpretive, critical and textual data to look beyond effectiveness, and towards meaningfulness, feasibility and applicability. There is no specific style or attribute of a leader that necessarily leads to a healthy work environment. Four leadership styles were positively associated with patient quality of life: participatory, consultative transformational and transactional.	2003	10/10 (AMSTAR rating from Program in Policy Decision-making)	5/44	7/44	44/44	1/44	The following factors were identified: collaboration; leader education; leader emotional intelligence; creating a positive work climate; professional development for leaders; leaders' roles in the professional development of their staff; and organizational structure that enables leaders to better support their staff	N/A

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Factors found to be associated with successful leadership	Strategies found to enhance leadership capacity
		Among these styles, transformational leadership was associated with the most positive outcomes. Besides leadership style, certain behaviours and characteristics of leaders demonstrated correlations with positive outcomes. These included motivation, consideration, trust, flexibility, respect and support. Leaders who seemed to create a healthy working environment were supportive of professional growth among staff. Encouraging multi-professional collaboration was seen as important for those in leadership roles.								
Attitudes of medical students to medical leadership and management: A systematic review to inform curriculum development (23)	To review what is known concerning the knowledge, skills and attitudes of medical students regarding leadership and management, including results pertaining to the attitudes of students in order to provide evidence	Students were found to value guidelines, audit and quality-improvement techniques. There was found to be mixed attitudes towards the principles of managed care among students. The authors suggest that this may reflect the current lack of emphasis given to	2009	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/26	0/26	Not reported	0/26	Not reported	Not reported

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Factors found to be associated with successful leadership	Strategies found to enhance leadership capacity
	that can inform curriculum development	leadership and management within medical education. In general, students have positive attitudes about multidisciplinary teams and believe that doctors should lead these teams. Doctors are increasingly seen as needing to develop leadership and management skills.								
Emotionally intelligent nurse leadership: A literature review study (22)	To establish a synthesis of the literature on the theoretical and empirical basis of emotional intelligence and it's linkage to nurse leadership, focusing on subjective well-being and professional development	Self-awareness was found to enable one to become emotionally intelligent, and also provides the ability to connect the thoughts, emotions and actions of nurses in a leadership role with staff. Leaders with emotional intelligence can foster an awareness of what a team is able to create through encouragement, positive expectations and opportunities to learn new skills. They value personal responsibility, innovation and initiative. Emotionally intelligent leaders use self-control	2007	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/18	1/18	18/18	0/18	Factors identified were: self-awareness, encouragement, positive expectations, opportunities to learn new skills, accepting change/promoting creativity, and the ability to perceive, express and manage emotions of oneself and others	N/A

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Factors found to be associated with successful leadership	Strategies found to enhance leadership capacity
		against criticism and feel less threatened by potential changes, thereby stimulating creativity among team members. Emotional intelligence might offer a framework for professional development, leadership capacity, and educational development among nurses. The ability to perceive, express and manage emotions of oneself and others is the cornerstone of developing leadership skills to promote both intellectual and emotional growth. Emotional intelligence was associated with positive empowerment processes as well as positive organizational outcomes.								
Enhancing nursing leadership in long-term care. A review of the literature (19)	To examine programs designed to enhance nursing leadership in long-term care, the outcomes associated with leadership in long-	Researchers found little evidence to support the general consensus that leadership skills are important for nursing-home nurses. Although some leadership	2007	4/9 (AMSTAR rating from Program in Policy Decision-making)	0/15	Not reported	Not reported	0/15	Factors found included: communication, inspiration/motivation, conflict resolution skills, relationship building skills, and self-	Strategies found to enhance leadership capacity included: strategic planning, policy development,

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Factors found to be associated with successful leadership	Strategies found to enhance leadership capacity
	term care, and to outline recommendations for programs to enhance nursing leadership in nursing-home settings	enhancement programs appear promising (e.g., Learn, Empower, Achieve, and Produce), there is insufficient strong evaluative data to adopt any particular program. Researchers recommend that quality-improvement initiatives in nursing homes should include provision for leadership enhancement, specifically including: 1) content on interpersonal skills, clinical skills, organizational skills and management skills; 2) specific leadership competencies for nurses at each level in the organization; 3) leadership enhancement that is tailored to the needs of those in different settings; 4) an educational component as well as ongoing mentorship; and 5) plans for systematically evaluating the effectiveness and outcomes.							awareness	negotiation, team building, adopting and implementing change theory, recruitment/ retention strategies, human resources policies and procedures, regulatory compliance, financial/ budgetary planning, employee supervision/ mentoring, and quality improvement.

Appendix 2: What is known from systematic reviews about the effects of leadership on organizational and management outcomes

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
A critical review of the research literature on Six Sigma, Lean and StuderGroup's Hardwiring Excellence in the United States: The need to demonstrate and communicate the effectiveness of transformation strategies in healthcare (32)	To assess the evidence of the effectiveness of three popular health-care transformational strategies: Six Sigma, Lean/Toyota Production System, and Studer's Hardwiring Excellence	Reviewed literature reported that transformational strategies are successful in improving certain health-related processes and outcomes, and that their applications are diverse. However, it was noted that very few articles met inclusion criteria, and the few that did had methodological limitations. In addition, there was no substantial evidence for lasting effects, and changes in organizational cultures were not considered.	2007	1/10 (AMSTAR rating from Program in Policy Decision-making)	0/19	10/19	0/19	0/19	These leadership/management strategies are helpful in promoting organizational transformation, but there was no specific discussion of how leadership (in and of itself) affected organizational transformation
Leading improvement (28)	To review the literature on approaches to leading quality and safety improvement in order to provide evidence-based materials that can inform leadership education programs	Clinician leaders play a role in improving healthcare provision, but their influence is limited. In addition, senior leaders are not the only ones who must engage in a leadership position. A "best evidence guidance" is provided as a checklist for senior	Not reported	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported	The leadership role of senior management is essential for quality and safety improvement Lack of leadership is associated with low-quality services, however, the role of senior leaders is more limited in healthcare than in any other sector

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
		leaders. The need for further leadership research is reported, especially the need for observational/controlled studies.							
Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review (25)	To examine the relationships between different styles of leadership and outcomes for the nursing workforce and their work environments	In general, relationally focused leadership practices demonstrate more frequent and positive outcomes than task-focused leadership styles. When healthcare leaders focus primarily on the task to be completed, such as in dissonant leadership, they often fail to develop or maintain relationships with staff members or to be tuned to their emotional needs. On the other hand, by tuning in to the emotional needs of staff, leaders work with others to understand their issues and concerns. As healthcare systems face a shortage of leaders, nurses and other health professionals, these	2009	5/9 (AMSTAR rating from Program in Policy Decision-making)	7/53	Not reported	53/53	2/53	Relationally-focused leadership, as opposed to task-focused, can lead to improved completion of tasks Factors that negatively influence a nurse's relationship with his or her leader may contribute to poor patient outcome In addition, effective leadership may help improve nurse retention

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
		strategies become crucial to ensure effective leadership.							
The influence of nursing leadership on nurse performance: A systematic literature review (26)	To explore leadership factors that influence nurse performance, and specifically, the role that nursing leadership behaviours play in nurses' perceptions of performance motivation	This review examined the relationship between factors that nurses perceive as influencing their motivation to perform. Nurses did not directly perceive nurse leaders as influencing their motivation to perform. Nursing leadership was found to have a direct influence on four of the factors nurses perceive as influencing their motivation to perform: autonomy, relationship building, resource accessibility and nursing leadership practices. As a result, researchers suggest nursing leadership has an indirect influence on nurses' perceptions of factors influencing their motivation to perform.	Not reported	5/10 (AMSTAR rating from Program in Policy Decision-making)	4/8	0/8	4/8	0/8	Nurse leadership has direct influence on the following four factors, which are perceived by other nurses to improve their performance: autonomy, relationship building, resource accessibility, and nursing leadership practices Nurses do not perceive senior leaders to have an influence on their motivation to perform
Understanding the components of quality improvement collaboratives: A systematic literature review (27)	To examine common components of quality-improvement collaboratives (QIC) in healthcare, and to explore relations between QIC components and outcomes at the patient	Researchers identified 14 cross-cutting structural and process-oriented components, including: in-person learning sessions, telephone meetings, data reporting, feedback, training in QI	2012	4/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	0/20	2/20	0/20	Leadership involvement in the execution of QICs can help improve the goals of these collaboratives and similar approaches QICs may contribute to change sustainability,

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
	or provider level	methods and use of process-improvement methods. Each included study implemented six or seven QIC components on average. Although some studies reported positive findings for provider outcomes, these authors stressed that the results should be taken with caution, as the outcome measures were largely derived from medical records and did not directly assess changes in provider behaviour. Researchers suggest future research to continue studying the effectiveness of QIC, the competence and skill of the QIC faculty, and the quality of implementation of QIC components.							overcoming implementation barriers, promoting continuous learning, and fostering inter-organizational support
A scoping literature review of collaboration between primary care and public health (33)	To review the literature focused on building successful collaborations between primary care (PC) and public health (PH), the outcomes of these collaborations, and what factors determine success	Successful collaborations were found to be driven by factors at the system level, the organizational level and at the interpersonal level, and led to several benefits including: 1) improved chronic disease	2008	4/10 (AMSTAR rating from McMaster Health Forum)	Not reported	Not reported	Not reported	Not reported	Strong leadership from policymakers is needed to support collaboration between PC and PH and the focus should be on enhancing communication and cooperation Leaders from both PC

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
		management; 2) communicable disease control; and 3) maternal and child health. At the system level, factors that determined successful collaboration included government involvement, policy and fit with local needs, funding and resources, power and control, and education/training. At the organizational level, lack of a common agenda, knowledge and resource limitations, leadership, management and accountability, geographic proximity of partners, and shared protocols and information were influential factors. Having a shared purpose, philosophy and beliefs, clear roles, positive relationships and effective communication and decision-making strategies were found to be important interpersonal factors in facilitating successful collaboration.							and PH must be engaged in the process of unifying the vision of both sectors

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
Factors affecting implementation of accreditation programs and the impact of the accreditation process on quality improvement in hospitals: A SWOT analysis(29)	To identify factors that influence implementation of hospital accreditation programs and to assess the impact of the accreditation process on quality improvement in public hospitals	Internal positive factors that may facilitate successful implementation of accreditation programs are increased staff engagement and communication, multidisciplinary team building, positive change in organizational culture, enhanced leadership and staff training, increased integration and utilization of information, and increased resources dedicated to continuous quality improvement (CQI). Barriers include organizational resistance to change, increased staff workload, lack of awareness on CQI, insufficient staff training and support for CQI, lack of applicable accreditation standards for local use, and lack of performance outcome measures. Researchers identified the need for a process of political, social and professional preparation before starting any policy-planning process.	2011	3/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	0/26	3/26	0/26	Enhanced leadership is one of many factors that can facilitate the successful implementation of accreditation programs

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
The influence of context on quality improvement success in health care: A systematic review of the literature (24)	To examine the contextual factors that are associated with quality improvement (QI) success, and to understand the current stage of development of this field of research	Researchers identified more than 66 contextual factors that could relate to QI success. Out of these factors, organizational characteristics, leadership from top management, competition, organizational culture, years involved in QI, and data infrastructure/information systems were predominantly examined in studies. With the exception of ownership, teaching status and competition, all of the factors generally influenced QI success. Current research suffers from conceptual ambiguity and methodological weaknesses, which include the use of poorly validated measurement instruments, the failure to use multivariable analyses, and the use of subjective measures of QI success.	2009	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	0/47	0/47	1/47	Strong leadership was reported to be strongly associated with high-performing projects, a team's perception of success, and team effectiveness Strong leadership is one of the factors most consistently associated with QI success
Techniques to aid the implementation of novel clinical information systems: A	To identify and evaluate techniques that can aid the implementation of novel clinical information systems (CIS) within	There is some evidence for the effectiveness of five techniques mentioned in the review for CIS implementation: 1) system	2013	3/9 (AMSTAR rating from Program	1/18	1/18	1/18	3/18	The authors suggest further assessment of the role of clinical leadership and its ability to play many roles in the CIS

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
systematic review (34)	healthcare	piloting; 2) eliciting acceptance; 3) use of stimulation; 4) training and education; and 5) provision of incentives. Positive impacts on clinical effectiveness were linked with the completion of tasks on the CIS, diagnostic accuracy and error rates. In one study, the aim was to bridge the gap between user dissatisfaction and satisfaction by focusing on eliciting user acceptance and engagement with clinicians. User dissatisfaction may have stemmed from the formalized lack of support from clinicians within the implementation program. The authors state the role of leadership should be further assessed and evaluated in the context of CIS implementation.		in Policy Decision-making)					implementation, which includes clear specifications for the CIS design team, facilitation of system piloting and the development of communication between clinical users and technical developers There is some evidence to suggest clinical leadership to be instrumental in implementing interventions in the healthcare system
Can knowledge management enhance technology adoption in healthcare? A review of the	To assess the relationship between knowledge management interventions and technology adoption	The review demonstrates little focus on the association between knowledge management and technology adoption.	2009	1/9 (AMSTAR rating from Program in Policy	Not reported	Not reported	Not reported	Not reported	Leadership development programs may facilitate technology adoption Leadership from all levels of organization may

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on organizational and/or management outcomes
literature (30)		The authors note the major gap between the impact of networks and leadership development. The findings also suggest that there is a shortage of data related to the efficiency of knowledge management interventions, which reflects the difficulty of generating evidence base for this study.		Decision-making)					facilitate network development and increase tacit knowledge exchange

Appendix 3: What is known from systematic reviews about the effects of leadership on achieving the 'Triple Aim' goals

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
The relationship between nursing leadership and patient outcomes: A systematic review (37)	To examine findings about the relationship between nursing leadership and patient outcomes	There is significant evidence to suggest positive association between positive leadership behaviours, styles or practices and increased patient satisfaction. The findings suggest that an emphasis on developing transformational nursing leadership is vital to improving patient outcomes. Researchers decided on four key themes: 1) patient satisfaction, 2) patient mortality and patient safety outcomes; 3) adverse events; and 4) complications.	2005	5/10 (AMSTAR rating from Program in Policy Decision-making)	1/7	1/7	7/7	0/7	Two of the three studies demonstrated an increase in patient satisfaction with significant association with positive leadership behaviours The nurse manager span of control had a moderating influence on the relationship between leadership style and patient satisfaction The researchers note a decline in positive effects of leadership style on patient satisfaction with a wide span of control (total number of staff reporting directly to the manager)	Three studies found that patient adverse events and complications in nursing-home residents were reduced with positive leadership Transformational and resonant leadership were associated with lower patient mortality in four studies Positive leadership practices include communication openness, formalization, participation in decision-making and relationship-oriented leadership	N/A

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
The relationship between nursing leadership and patient outcomes: A systematic review update (38)	To update a systematic review(37) that examines the relationship between nursing leadership practices and patient outcomes	There is evidence to suggest positive relationship between positive leadership and higher patient satisfaction, lower patient mortality and medication errors, restraint use and hospital-acquired infection. Outcomes were grouped into five categories: 1) patient satisfaction; 2) patient mortality; patient safety outcomes; 3) adverse events; 4) complications; and 5) patients' healthcare utilization.	2013	5/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	1/20	20/20	1/20	Four studies showed significant associations between leadership and increased patient satisfaction A study found that family satisfaction with resident care was related to task-oriented leadership due to facilitating patient care by providing direction, clarification of tasks and clear work expectations Two studies did not demonstrate significant findings for the effects of leadership on patient healthcare utilization, however, one study found manager support	Three of six studies focused on the relationship between leadership and patient mortality found that leadership decreased patient mortality, while two studies found no significant association, and one found that leadership increased patient mortality Leadership was significantly associated with reductions in medication errors in four of five studies The results on the association between leadership and patient falls were found to be mixed, with two studies finding a significant reduction in falls and two studies finding no significant relationship	Not reported

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
									to be associated with a lower patient length of stay through the human resource indicators of lower absenteeism, overtime and nurse-to-patient ratio	Lower hospital-acquired infection rates were observed in two of three studies included that examined this relationship, while the relationship between complications and leadership were mixed	
Leadership, job well-being, and health effects: A systematic review and a meta-analysis (39)	To examine the association between leadership and well-being at work and work-related health	There is moderate evidence to suggest leadership is associated with job well-being. However there is weak evidence to suggest leadership is associated with job satisfaction, and an unclear relationship between job performance and leadership.	2005	5/11 (AMSTAR rating from Program in Policy Decision-making)	0/27	Not reported	27/27	1/27	N/A	The review found a lack of evidence about the influence of leadership on employee health, although some good quality studies suggest that effective leadership may lead to fewer sickness absences	N/A
Emotionally intelligent nurse leadership: A literature review study (22)	To establish a synthesis of the literature on the theoretical and empirical basis of emotional intelligence and it's linkage to nurse	Emotional intelligent nurse leadership, characterized by self-awareness and supervisory skills, was associated with positive empowerment processes and	2007	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/18	1/18	18/18	0/18	It is reported that leaders with high emotional intelligence make a greater number of rational decisions, which allows a productive	Not reported	Not reported

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
	leadership, focusing on subjective well-being and professional development	organizational outcomes. There was significant evidence that empathetic concern, perspective taking and empathetic match showed positive correlation with leadership. It is suggested that the most effective leaders were characterized by four leadership styles: visionary, coaching, affiliative and democratic. Emotional intelligence nurse leaders provide an authentic and supportive role in addition to fostering a healthy environment.							assessment of the emotional side of their patients		
Local opinion leaders: Effects on professional practice and health care	To assess the effectiveness of the use of local opinion leaders in improving professional	The authors conclude that opinion leaders may successfully promote evidence-based practice, but with varied	2009	10/10 (AMSTAR rating from Program in Policy Decision-making)	6/18	0/18	0/18	2/18	N/A	The review found that local opinion leaders may promote evidence-based practice for treating patients which can improve	N/A

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
outcomes (36)	practice and patient outcomes	effectiveness. Due to the few studies using this method, the effectiveness and activities of opinion leaders were not clearly described. The authors suggest further studies to ensure a detailed description of the intervention, and to identify the context in which opinion leaders are most effective.								patient outcomes, although no studies were included that measured this relationship directly	
Non-technical skills training to enhance patient safety: A systematic review (35)	To investigate the influence of non-technical skills training and its educational interventions on patient safety	The review found that there is mostly positive patient safety outcomes reported as a result of non-technical skills training, however, significant disparity amongst the interventions and outcomes focused on in the studies included, and differences in the educational outcomes made it hard to draw concise conclusions. Few studies focused	2011	10/10 (AMSTAR rating from Program in Policy Decision-making)	0/22	0/22	3/22	1/22	N/A	Fostering joint professional responsibility and teamwork may improve patient safety	N/A

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
		on process outcomes. A large number of studies found that it is important to take a multi-disciplinary approach to skills-training that mirrors real life working within healthcare. The roles of observation and simulation as teaching methods were reported in many studies as important. There is a lack of emphasis on using established theoretical frameworks to design non-technical skills-training interventions, and the authors suggest that the five thematic categories identified be used in future intervention designs.									

Title	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on leadership	Proportion of studies that focus on primary and/or community care	Effects of leadership on each of the 'Triple Aim' goals		
									Improving the patient experience of care (including quality and satisfaction)	Improving the health of populations	Reducing the per capita cost of health care
		The following five themes were generated from the review: 1) communication; 2) error; 3) information management; 4) teamwork and leadership; and 5) situational awareness.									

Appendix 4: Systematic reviews relevant to Option 1 - Develop, disseminate and support the use of a toolkit to support leadership development in Ontario's primary- and community-care sectors (i.e., better publicize what we've got)

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
Develop, disseminate and support the use of a toolkit		To determine the effectiveness of interventions designed to improve the use of systematic reviews in decision-making by health system managers, policymakers and clinicians (42)	Mass mailing printed bulletins which summarize systematic review evidence may improve evidence-based practice when there is a clear message, if the change is relatively simple to accomplish, and there is growing awareness by users of evidence that change is required. Multifaceted interventions may be required if the intention is to improve awareness of systematic reviews and the skills for implementing the findings from reviews, although more evidence is needed to support this approach.	2011	9/10 (AMSTAR rating from Program in Policy Decision-making)	1/8	0/8	0/8	1/8
		To determine the effectiveness of printed educational materials for improving healthcare professionals' awareness, knowledge, attitudes and skills (89)	Printed educational materials slightly improve healthcare professional practice compared to no intervention, but a lack of results prevents any conclusion on their impact on patient outcomes.	2011	8/11 (AMSTAR rating from Program in Policy Decision-making)	12/45	0/45	0/45	15/45
		To determine the effectiveness of knowledge-translation (KT) strategies used to promote evidence-informed decision-making among public health decision-makers (44)	Passive approaches, including the distribution of print materials, to facilitate the use of research evidence in public-health decision-making were found to be less effective than multifaceted approaches.	2010	8/10 (AMSTAR rating from Program in Policy Decision-making)	2/5	0/5	0/5	3/5
Include in the toolkit definitions of key concepts									
LEADS framework	Overall	To examine the factors that contribute to nursing leadership	Studies that examined the influence of a leadership development	2006	4/9 (AMSTAR	2/24	0/24	Not reported	1/24

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		and the effectiveness of educational interventions in developing leadership behaviours among nurses (20)	program reported significant increases in leadership behaviours post-intervention. However, these positive results should be viewed with cautious optimism. Researchers pointed to the importance of modelling in a leader's role. As leaders learn new skills, they should demonstrate, model and use these skills in the practice setting. Furthermore, there is evidence that the financial resources invested in educational programs for leadership competencies development are well placed. There is evidence that nursing leaders with higher levels of education and experience lead to increased leadership effectiveness. These results suggest the length of time in a leadership role and practices can promote leadership competency. Contact between leaders and followers is an important step to provide opportunities for both parties to use and develop their leadership skills.		rating from Program in Policy Decision-making)				

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		To review the existing literature on leadership to develop a framework that synthesizes the best available evidence on the topic, and to draw out implications for policy, practice and further research (77)	Those interested in leadership development must think about several aspects of leadership including: 1) the concepts of leadership that help to clarify what is meant by leadership; 2) the characteristics of leadership such as what roles and resources are available to leaders and how the roles vary; 3) the contexts of leadership, including the factors in the wider environment that leaders must be aware of; 4) the challenges of leadership, its key purposes and aims; 5) the capabilities of leadership which include the skills and abilities that can help a leader be effective; and 6) the consequences of leadership which can help one assess whether leadership is effective. At present, evaluations of leadership are sparse, and the methods of leadership evaluation are under-developed and not properly informed by theory. As such, not many conclusions can be drawn about its consequences (i.e. whether it is effective). More robust methods for leadership evaluation are required.	2005	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		To examine programs designed to enhance nursing leadership in long-term care, the outcomes associated with leadership in long-term care, and to outline recommendations for programs to enhance nursing leadership in nursing home settings (19)	Researchers found little evidence to support the general consensus that leadership skills are important for nursing-home nurses. Although some leadership enhancement programs appear promising (e.g., Learn, Empower, Achieve, and Produce), there is insufficient strong evaluative data to adopt any particular program. As a result, researchers recommend that quality-improvement initiatives in nursing homes should include provision for leadership enhancement, specifically including: 1) content on interpersonal skills, clinical skills, organizational skills and management skills; 2) specific leadership competencies for nurses at each level in the organization; 3) leadership enhancement that is tailored to the needs of those in different positions; 4) an educational component as well as ongoing mentorship; and 5) plans for systematically evaluating the effectiveness and outcomes.	2007	4/9 (AMSTAR rating from Program in Policy Decision-making)	0/15	0/15	0/15	0/15
	Lead self	To determine the theoretical and empirical basis of emotional intelligence (EI) and its linkage to nurse leadership, focusing on subjective well-being and professional development (22)	Self-awareness enables one to become emotionally intelligent and able to connect the thoughts, emotions and actions of nurses in a leadership role and followers. Leaders with emotional intelligence can foster an awareness of what a team is able to create through encouragement, positive	2007	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/18	1/18	Not reported	0/18

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			expectations, and opportunities to learn new skills. They value personal responsibility, innovation and initiative. Emotionally intelligent leaders use self-control against criticism and feel less threatened by potential changes, thereby stimulating creativity among team members. EI might offer a framework for professional development, leadership capacity, and educational development among nurses. The ability to perceive, express and manage emotions of oneself and others is the cornerstone of developing leadership skills to promote both intellectual and emotional growth. EI was found to be associated with positive empowerment processes as well as positive organizational outcomes.						
		To determine the effectiveness of self-directed learning in health professional training, and to bring forward a framework utilizing Malcolm Knowles' components for self-directed learning (53)	The review describes the seven key components of self-directed learning, including the educator as a facilitator, identification of learning needs, development of learning objectives, identification of appropriate resources, implementation of the processes, commitment to a learning contract and evaluation of learning.	2009	8/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	1/59

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			Self-directed learning is limited by the consistency of the implementation and the definitions used by the educators. Additionally, there is no standardized way to determine a student's readiness to participate in self-directed learning. Although self-directed learning (SDL) and problem-based learning (PBL) have been mistakenly seen as synonymous, this review states that they have been linked. There was also conflicting evidence raised about the benefits of SDL activities within PBL courses. SDL, which has seen increased interest from educators, has the potential to encourage learning in health professional education.						
		To determine the "active-mode learning" techniques used in the U.S. for geriatrics by examining existing continuing medical education (CME) programs (55)	Many CME programs utilize traditional teaching techniques that have been shown to be ineffective in altering the practice of physicians. The challenges facing developers of CME programs are developing accessible programs that are founded in knowledge translation to have an effect on practice. This review found that the most effective methods that resulted in changed behaviours included multiple educational approaches. These include "written materials or toolkits combined with feedback and	2004	3/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	9/13

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			strong communication channels between instructors and learners."						
		To determine the effectiveness of continuing professional education (CPE) programs for healthcare professionals specifically looking at patient management and patient outcomes in dementia care (56)	The evidence for change in professional practice and health outcomes of CPE programs are often inconsistent. Multifaceted interventions and interventions with repeated inputs seem to be more effective and result in changes compared to traditional techniques. The number of studies examining CPE in dementia care is very low. The authors suggest a targeted approach for CPE in dementia care as the lessons from CPE in other professional and medical settings may be helpful.	2007	2/9 (AMSTAR rating from Program in Policy Decision-making)	12/34	Not reported	Not reported	2/34
		To investigate the number and quality of evidence-based studies on continuing professional-development (CPD) cost-effectiveness for healthcare professionals (78)	An insufficient number of systematic reviews of cost-effectiveness of CPD programs have been performed, and needs to be addressed. The review raises the issue that economic evaluations of CPD are rare. Additionally, the evidence associated with these reviews is not consistently evaluated, and different costing analyses are used. It was determined through this review that no significant conclusions about cost-effectiveness could be drawn due to the limited scope.	2002	5/9 (AMSTAR rating from Program in Policy Decision-making)	0/9	0/9	0/9	2/9

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		To determine what factors facilitate or inhibit continuing education programs in nursing, and to identify strategies to improve continuing education effectiveness (57)	Factors found to facilitate the implementation of continuing nursing education are driven by positive individual, professional and organizational perspectives. Didactic approaches to continuing nursing education may not be as effective as initiatives that are participatory, and encourage nurses to take initiative and direct their own learning. There are challenges in measuring whether continuing medical education programs have achieved their intended goal of improving health-care practitioners' knowledge so that it may be used to improve practice.	2005	1/9 (AMSTAR rating from Program in Policy Decision-making)	3/27	Not reported	Not reported	Not reported
		To synthesize the evidence of the effectiveness of continuing professional development (CPD) programs in dentistry, with a focus on the resulting behaviour changes or patient outcomes (54)	Different interventions were seen through the studies including: courses/workshops, written information, computer assisted learning audit/self-reflection, face-to-face support, and black box combinations of these interventions. The impact of courses and workshops were found to be variable in terms of interventions, outcomes and quality, although small improvements were found in patient quality of care (e.g., root fillings) and self-reported knowledge acquisition among dentists. Written information and mailed	2013	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	8/13

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			interventions were found to improve knowledge, but were not sufficient to change clinical behaviour. No studies provided evidence of positive effects of computer-assisted learning in improving any outcomes, and the influence of audit and feedback was found to be mixed in terms of improvements in patient care and provider knowledge. Face-to-face support was reported as promising, although this is a very resource-intensive intervention and may not be pragmatic. The results showed that multi-level approaches (i.e. black box interventions that include several of the above components) had the most potential for impact on dental practitioners' knowledge and practice. Through the studies included it was clear that more high-quality randomized control trials are needed to evaluate the quality of CPD interventions in dentistry.						
		To investigate non-technical skills training and its educational interventions (35)	The review found that there are mostly positive patient safety outcomes reported as a result of non-technical skills training, however, significant disparity amongst the interventions and outcomes focused on in the studies	2011	10/10 (AMSTAR rating from Program in Policy Decision-making)	0/22	0/22	Not reported	1/22

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			included, and differences in the educational outcomes, made it hard to draw concise conclusions. Few studies focused on process outcomes. A large number of studies found that it is important to take on a multidisciplinary approach to skills-training that mirrors real life working within healthcare. The roles of observation and simulation as teaching methods were reported in many studies as important. There is a lack of emphasis on using established theoretical frameworks to design non-technical skills-training interventions, and the authors suggest that the five thematic categories identified be used in future intervention designs. The following five themes were generated from the review: 1) communication; 2) error; 3) information management; 4) teamwork and leadership; and 5) situational awareness.						
	Engage others	To assess the effectiveness of the use of local opinion leaders in improving professional practice and patient outcomes (36)	The authors conclude that opinion leaders may successfully promote evidence-based practice, but with varied effectiveness. Due to the small number of studies using this method, the effectiveness	2009	10/10 (AMSTAR rating from Program in Policy Decision-making)	6/18	0/18	0/18	2/18

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			and activities of opinion leaders were not clearly described. The authors suggest further studies to ensure a detailed description of the intervention and to identify the context in which opinion leaders are most effective.						
		To appraise and synthesize the best available evidence on the feasibility, meaningfulness and effectiveness of nursing leadership attributes that contribute to the development and sustainability of nursing leadership to foster a healthy work environment (21)	Nursing leadership is identified as a key issue in addressing the shortage of nurses. The review considered interpretive, critical and textual data to look beyond effectiveness, and towards meaningfulness, feasibility and applicability. There is no specific style or attribute of a leader that necessarily leads to a healthy work environment. Four leadership styles were positively associated with patient quality of life: participatory, consultative, transformational and transactional. Among these styles, transformational leadership was associated with the most positive outcomes. Besides leadership style, certain behaviours and characteristics of leaders demonstrated correlations with positive outcomes. These included motivation, consideration, trust, flexibility, respect and support. Leaders who seemed to create a	2003	10/10 (AMSTAR rating from Program in Policy Decision-making)	5/44	7/44	5/44	1/44

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			healthy working environment were supportive of professional growth among staff. Encouraging multi-professional collaboration was seen as important for those in leadership roles.						
		To examine the relationships between different styles of leadership and outcomes for the nursing workforce and their work environments (25)	In general, relationally focused leadership practices demonstrate more frequent and positive outcomes than task-focused leadership styles. When healthcare leaders focus primarily on the task to be completed, such as in dissonant leadership, they often fail to develop or maintain relationships with staff members or to be tuned to their emotional needs. On the other hand, by tuning in to the emotional needs of staff, leaders work with others to understand their issues and concerns. As healthcare systems face a shortage of leaders, nurses and other health professionals, these strategies become crucial to ensure effective leadership.	2009	5/9 (AMSTAR rating from Program in Policy Decision-making)	7/53	Not reported	Not reported	2/53
		To examine programs designed to enhance nursing leadership in long-term care, the outcomes associated with leadership in long-term care, and to outline recommendations for programs to enhance nursing leadership in nursing-home settings (19)	Researchers found little evidence to support the general consensus that leadership skills are important for nursing-home nurses. Although some leadership enhancement programs appear promising (e.g., Learn, Empower, Achieve, and Produce), there is insufficient strong	2007	4/9 (AMSTAR rating from Program in Policy Decision-making)	0/15	0/15	0/15	0/15

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			evaluative data to adopt any particular program. As a result, researchers recommend that quality-improvement initiatives in nursing homes should include provision for leadership enhancement, specifically including: 1) content on interpersonal skills, clinical skills, organizational skills and management skills; 2) specific leadership competencies for nurses at each level in the organization; 3) leadership enhancement that is tailored to the needs of those in different positions; 4) an educational component as well as ongoing mentorship; and 5) plans for systematically evaluating the effectiveness and outcomes.						
		To examine the association between leadership and well-being at work and work-related health (39)	There is moderate evidence to suggest leadership is associated with job well-being. However there is weak evidence to suggest leadership is associated with job satisfaction, and an unclear relationship between job performance and leadership.	2005	5/11 (AMSTAR rating from Program in Policy Decision-making)	0/27	Not reported	Not reported	1/27
		To evaluate the effectiveness of interprofessional education for healthcare students at the university level by using the available evidence (64)	The attitudes of students who are enrolled in university health-based programs may be enhanced with the use of interprofessional education programs. This approach to education has impacts on the attitudes and perceptions of "interprofessional collaboration and clinical decision-making." With respect to communication skills	2011	7/11 (AMSTAR rating from Program in Policy Decision-making)	1/9	0/9	0/9	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			and clinical skills, the evidence to support using interprofessional education is inconclusive. Further randomized and controlled studies are necessary to improve the evidence to support interprofessional education.						
		To determine the effects of interactive communication between primary care and specialist physicians on ambulatory patient outcomes (65)	This study suggested that there is a potential role for interactive communication in a primary-specialist collaboration. This requires the communication to be consistent and also clinically important. The efficiency of interactive communication could not be established because of the multifaceted nature of collaboration. Limitations also include the lack of certain specialties, such as oncologists, included in the studies.	2008	7/11 (AMSTAR rating from Program in Policy Decision-making)	2/23	0/23	0/23	23/23
		To evaluate the impact of interventions designed to alter interprofessional collaboration (IPC) when comparing an intervention to no intervention or an alternate intervention on patient outcomes (58)	Health outcomes and processes can be positively impacted by IPC interventions, although the results are mixed and no firm generalizable conclusions can be drawn based on the available evidence. Interprofessional rounds were found to improve length of stay and reduce total patient cost in one study, but another study of interdisciplinary rounds found no similar impacts. Meetings were found to improve prescribing in one study, while the	2007	9/11 (AMSTAR rating from McMaster Health Forum)	Not reported	0/5	Not reported	0/5

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			results were found to be mixed with respect to video versus audio meetings in another study. Multidisciplinary meetings that are externally facilitated were associated with increased audit activity and reported patient care improvements.						
		To identify organizational strategies that facilitate the process of interprofessional collaboration (IPC) between biomedically trained doctors and traditional, complementary and alternative medicine practitioners (TCAMP) (60)	Integrative healthcare has been developing recently, with a significant push from patients who are now seeking holistic care. Teams were seen to increase team bonding when they participated in "bridge-building activities, positive promotion of partnership and co-location of practices." Participation from TCAMPs was seen to benefit from the decrease in perceived power differentials. This team structure also must be supported with resources to build teams, promote collaboration initiatives, as well as to increase patient access. Creating a "balance between the different practices and preserving the epistemological stance of TCAMP will remain the greatest challenge in successful integration."	2011	8/9 (AMSTAR rating from Program in Policy Decision-making)	11/37	0/37	0/37	8/37
		To review the literature focused on building successful collaborations between primary care (PC) and public health (PH), the outcomes of these	Successful collaborations were found to be driven by factors at the system level, the organizational level and at the interpersonal level, and led to several benefits including: 1)	2008	4/10 (AMSTAR rating from McMaster Health	Not reported	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		collaborations, and what factors determine success (33)	improved chronic disease management; 2) communicable disease control; and 3) maternal and child health. At the system level, factors that determined successful collaboration included government involvement, policy and fit with local needs, funding and resources, power and control, and education/training. At the organizational level, lack of a common agenda, knowledge and resource limitations, leadership, management and accountability, geographic proximity of partners, and shared protocols and information were influential factors. Having a shared purpose, philosophy and beliefs, clear roles, positive relationships and effective communication and decision-making strategies were found to be important interpersonal factors in facilitating successful collaboration.		Forum)				
		To review the literature focused on collaboration and user involvement and the impacts these have on cancer care (69)	This review initially raises a concern regarding confusion around the terminology of collaboration and user involvement, however, the findings suggest that education may be one way to develop collaboration between health professionals, and that better understanding and knowledge of the users' experience may help enable collaboration between professionals and users.	Not reported	2/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			The review found that there may be reluctance by healthcare professionals to engage with users at the level of partnership or shared power for fear of losing power. Little evidence was found to suggest that user involvement in collaborative practice is high on professional, organizational or educational agendas, and is not role modelled through policy development.						
		To analyze the evidence for interprofessional collaboration and its potential impacts on primary care, including benefits for patients and providers (70)	This review showed that improved interprofessional collaboration has benefits for healthcare providers, the healthcare system as well as patients. These benefits were particularly important for populations with chronic disease or special needs. Professional legislation and regulation also do not currently have clear definitions of collaboration, which needs to be included. The benefits of good interprofessional collaboration have demonstrated benefits of increased healthcare-provider job satisfaction, positive perception of working collaboratively, enhanced knowledge and skills, differing practice behaviours and a broader range of service provision.	Not reported	2/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	39/206 (but some of the papers were not reported in detail)
		To examine the interaction	The elements assessed in the data	2012	6/10	3/16	Not reported	Not reported	12/16 were

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		between general practitioners and pharmacists, and the extent of collaboration that has an impact on the implementation of recommendations from medication review (66)	analysis included pharmacist with clinical experience, involvement of a patient's own pharmacist, sharing of medical records, patient interview by pharmacist, invitation of patients by general practitioner (GP), case conference between GP and pharmacist, action plan and follow-up. There were a significant number of elements in the intervention that reflected the collaboration between the GP and the pharmacist. Collaboration in the medication review and the implementation of these recommendations by the patient showed a significant positive correlation.		(AMSTAR rating from Program in Policy Decision-making)				reported
		To review the evidence about interprofessional collaboration models and their potential influence in primary care improvement efforts (67)	This review identified five types of interprofessional collaboration models for primary care including: interprofessional team, nurse-led, case management, patient navigation and shared care. Healthcare settings do not limit the number of collaborative models used at one time. Varying evidence has been seen to support the above models, but the general outcomes show improved patient, system and provider outcomes. The type of collaboration model is	2012	6/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	75/173

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			dependent upon the context, which includes leadership, political environment, knowledge, regulation, availability, willingness, capacity, etc.						
		To assess the perceptions and experiences of professionals working in collaborative and integrated models of perinatal care for women with mental health issues (83)	Increased collaboration between health professionals was seen to be supported by the majority of professionals included in the review. There were specific processes that were necessary to facilitate increased collaboration. These included resourcing and supporting the change, as well as a shift in cultural attitudes. Specific patient groups, such as those studied here in perinatal and infant mental health, require specific focus as they face different challenges. This group in particular required professionals to work across different disciplines and unique timelines. This review called for an increase in empirical papers examining the attitudes and perceptions of health professionals in collaborative settings.	2010	3/9 (AMSTAR rating from Program in Policy Decision-making)	0/14	0/14	0/14	2/14
		To analyze the components of effective teamwork within the Canadian healthcare system (84)	This review identified and analyzed the components of teamwork which included: 1) effectiveness of teams; 2) types of interventions; 3) healthcare team dynamics; and 4) the impact of government infrastructure, legislation and policy.	Not reported	2/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			Many challenges that are faced when attempting to establish effective teamwork strategies were also identified and fell into the four components of teamwork outlined above. The many examples of successful teamwork projects across Canada and around the world led the authors to suggest that organizational culture and support for teamwork are two of the most common factors that facilitate successful teamwork.						
		To measure team climate of primary-care settings within the National Health Service (NHS) of the U.K., and determine if there is any correlation between team climate inventory and measures of quality of care (79)	This review utilized the team climate inventory (TCI) to measure perceived team climate and overall team climate, and its association with quality of care for patients. The review raises concern with the difficulty of conducting these reviews, sighting methodological challenges. Health care teams have lower TCI subscale scores compared to other multidisciplinary teams. Of the four studies that measured the relationship between team climate and quality of life, only one found positive association. This study found that higher team climate was associated with better access, continuity of care, higher quality of management of diabetic patients, and improved patient satisfaction. However, these results were not replicated in a subsequent study based on sub-samples of the	2007	3/9 (AMSTAR rating from Program in Policy Decision-making)	0/8	0/8	0/8	4/8

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			same practice with updated TCI and clinical data. The researchers indicate further investigation is required to find whether team function affects quality of care.						
		To determine how clinico-management relationships have changed over 20 years in the NHS, specifically with the impact of educational and training programs (88)	In this review, the importance of educational background is strongly emphasized as a strong indicator of how clinicians and managers will view reforms. Considering the significant number and range of reforms that have occurred in the NHS, it is surprising that very little has changed with respect to practitioner-manager relationships. Support for managerial reforms ranges from resistance from nurse and medical clinicians, to some support from medical managers, to broad support from nurse managers. This range in opinion and views has resulted in a significant amount of "tribal" behaviour that is persisting.	2010	2/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported
		To assess the effectiveness of email communication to communicate clinical information, looking specifically at professional and patient outcomes, service performance and service efficiency (61)	Only one study was included in this review, and the authors noted problems with the study as it may be biased due to "concealment and blinding domains." When email was used with reminders compared to normal care, there was a significant improvement of	2010	9/9 (AMSTAR rating from Program in Policy Decision-making)	0/1	0/1	0/1	1/1

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			consistency with the guideline-recommended treatments. Although the physicians tended to change their behaviours, the impact on patients and the associated actions was not conclusive. Outcomes and harms in primary care were not evaluated in this study.						
		To determine the best ways to circulate healthcare evidence to members who have influence over healthcare decisions for improved understanding and practice (62)	This review included a large number of studies, but with the methods on head-to-head comparisons, the ability to draw conclusions was limited. Blended communication strategies were common, but multicomponent communications were seen to have the most influence on physician behaviour, specifically guideline adherence. The authors emphasized the need for more research evidence around communication practices to determine the impact on care.	2013	8/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	17/61 (some were not reported)
		To assess the effectiveness of information and communication technology (ICT) adoption through interventions targeted at healthcare professionals (63)	The studies included in this review focused primarily on physicians, with only some focused on other health professionals. Of the studies included, only two included analysis of patient outcomes, which was a limitation of the analysis. The studies ranged from producing	2007	9/10 (AMSTAR rating from Program in Policy Decision-making)	3/10	Not reported	Not reported	2/10

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			moderate positive effects, to mixed effects, four reviews were unable to demonstrate positive effects. This results in a very small amount of evidence to evaluate the effectiveness of ICT interventions for health professionals, and more evidence is needed.						
		To undertake a review of the literature to determine which training interventions for teams of clinicians and staff are effective for improving staff, team and patient outcomes (68)	The studies included in this review were not of high quality, with the authors citing blinding, subjective measures and the Hawthorne effect. There were a number of positive results reported including: 1) attitudes of staff; 2) teamwork improvements; 3) technical performance improvements; and 4) improvements in clinical operations. Five out of eight studies report significant improvements in technical performance, improved efficiency or reduced error. Clinical benefits were reported in three studies, but these improvements were marginal. Direct clinical or technical benefits from training or interventions were very weak, based on the studies included. This study raises the premise that additional and higher quality research is needed.	Not reported	6/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	0/14
		To determine the gaps in	The inconsistencies in discharge	2006	3/9	Not	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		communication of hospital staff in the process of discharge, and how that will make an impact on care for patients through continuity of care (76)	summaries, including dissemination and completion, were identified by this study. Dissemination time to the primary physician was improved with the use of electronic records and giving the patients their documentation to take to their practitioners. Standardization of discharge documents into a consistent format led to a perceived improvement in quality and consistency of discharge.		(AMSTAR rating from Program in Policy Decision-making)	reported			
		To assess the types of communication used in the operating room and the impact of interventions focused around operating room (OR) team training (71)	The improvements of OR teams before and after team training as an intervention were significant. In eight out of 12 studies, post-intervention improvements for surgical teams were seen in the areas of communication, teamwork climate and collaboration. Three studies demonstrated significant reduction in surgical errors. However, there was no difference in wrong-site surgeries, length of stay, procedure times, and procedure start and turnover times. This study suggests that additional research evidence is necessary to implement long-term interventions that can be applied across diverse settings.	2009	2/9 (AMSTAR rating from Program in Policy Decision-making)	1/12	Not reported	Not reported	0/12
		To assess and review the effectiveness of safety team initiatives within acute-care	The studies included provided little evidence about the successful or unsuccessful initiatives undertaken	2007	8/10 (AMSTAR rating from	Not reported	Not reported	Not reported	0/99

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		settings (59)	by teams in acute-care settings, barriers and facilitator to team initiatives, unique or combined interventions, or how to selectively establish these teams. Although limited, there is some evidence that improvements were seen in patient experience with programming and transition, patient safety, and efficiency in the acute-care setting. Of the studies evaluating safety, four out of 15 found statistically significant reduction in error and preventable adverse drug events, and improvements in reporting, after the educational intervention. This review was able to find some positive results, but cited significant methodological issues in making broad statements about improvement collaboratives. More research is suggested by these authors, specifically to review the design, evaluation and reporting of safety team initiatives.		Program in Policy Decision-making)				
		To conduct a review and compare team care with non-team care to determine whether team interventions are effective and to understand their impact (72)	The findings from the studies included in the review were summarized using the "Integrated Team Effectiveness Model (ITEM)." This model helped to identify where there were gaps in the literature. This review states that both the	2004	3/11 (AMSTAR rating from McMaster Health Forum)	2/33	Not reported	Not reported	10/33

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			amount of experience, and the diversity of clinical experience with collaboration and team decision-making has the most influence on outcomes. Staff satisfaction and team effectiveness are directly linked to the characteristics of a team, such as the existence of conflict management and collaboration. The review also highlights the effects of the contexts in which the team works, (e.g. the characteristics of the practice). Factors external to the team such as organizational support, and resources are also important.						
	Achieve results	To examine the findings related to the relationship between nursing leadership and patient outcomes (37)	There is significant evidence to suggest positive association between positive leadership behaviours, styles or practices, and increased patient satisfaction. The findings suggest that an emphasis on developing transformational nursing leadership is vital to improving patient outcomes. Researchers decided on four key themes: 1) patient satisfaction; 2) patient mortality and patient safety outcomes; 3) adverse events; and 4) complications The most useful outcome involves further studies to be conducted with	2005	5/10 (AMSTAR rating from Program in Policy Decision-making)	1/7	1/7	1/7	0/7

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			advanced multivariate statistical procedures.						
		To review the literature on approaches to leading quality and safety improvement in order to provide evidence-based materials that can inform leadership education programs (28)	Clinician leaders play a role in improving healthcare provision, but their influence is limited. In addition, senior leaders are not the only ones who must engage in a leadership position. A "best evidence guidance" is provided as a checklist for senior leaders. The need for further leadership research is reported, especially the need for observational/controlled studies.	Not reported	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported
		To explore leadership factors that influence nurse performance, and specifically, the role that nursing leadership behaviours play in nurses' perceptions of performance motivation (26)	This review examined the relationship between factors that nurses perceive as influencing their motivation to perform. Interestingly, nurses did not directly perceive nurse leaders as influencing their motivation to perform. Yet, nursing leadership has a direct influence on four of the factors nurses perceive as influencing their motivation to perform: autonomy, relationship building, resource accessibility and nursing leadership practices. As a result, researchers suggest nursing leadership has an indirect influence on nurses' perceptions of factors influencing their motivation to perform.	Not reported	5/10 (AMSTAR rating from Program in Policy Decision-making)	4/8	0/8	Not reported	0/8
		To identify factors that influence implementation of hospital	The analysis aims to identify the internal strengths and weakness of	2011	3/9 (AMSTAR	Not reported	0/26	0/18	0/26

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		accreditation programs and to assess the impact of the accreditation process on quality improvement in public hospitals (29)	an organization, and the external market opportunities and threats. Some internal positive factors that may facilitate successful implementation of accreditation programs are increased staff engagement and communication, multidisciplinary team building, positive change in organizational culture, enhanced leadership and staff training, increased integration and utilization of information, and increased resources dedicated to continuous quality improvement (CQI). On the other hand, barriers include organizational resistance to change, increased staff workload, lack of awareness on CQI, insufficient staff training and support for CQI, lack of applicable accreditation standards for local use, and lack of performance outcome measures. Researchers identify the need for a process of political, social and professional preparation before starting any policy-planning process.		rating from Program in Policy Decision-making)				
		To examine the contextual factors that are associated with quality-improvement (QI) success, and to understand the current stage of development of this field of research (24)	Researchers identified more than 66 contextual factors that could relate to QI success. Out of these factors, organizational characteristics, leadership from top management, competition, organizational culture, years involved in QI, and data infrastructure/information systems were predominantly examined in	2009	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	0/47	Not reported	0/47

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			studies. With the exception of ownership, teaching status, and competition, all of the factors generally influenced QI success. Current research suffers from conceptual ambiguity and methodological weaknesses, which include the use of poorly validated measurement instruments, the failure to use multivariable analyses, and the use of subjective measures of QI success.						
	Develop coalitions	To assess the effectiveness of quality-improvement collaboratives for improving quality of care (73)	Limited research has been done on improvement collaboratives, and therefore the positive results reported in the selected studies have limited applicability. The studies have shown moderate positive results, improvement on some of the outcome measures, or no effect at all. Further research must be done to clarify the components' effectiveness, cost-effectiveness and success factors. These all contribute to the overall quality of improvement collaboratives.	2006	4/11 (AMSTAR rating from www.rxforchange.ca)	0/72	0/72	Not reported	Not reported
		To determine whether regional collaborations seen in surgical practices are associated with quality-improvement outcomes, and to identify the factors that contribute to the success of regional collaborations (74)	The review noted that many of the collaborations were initiated by external pressure for performance data. Of the collaborative efforts that were undertaken, significant clinical outcomes were seen to improve	2006	4/11 (AMSTAR rating from www.rxforchange.ca)	0/7	0/7	Not reported	0/7

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			patient care and experience. Reported success factors included: 1) the establishment of trust among health professionals and health institutions; 2) the availability of accurate, complete, relevant data; 3) clinical leadership; 4) institutional commitment; and 5) the infrastructure and methodology support for quality management. A model of collaboration in healthcare organizations incorporated the above success factors to improve the quality of care, and initiative to support continuing professional development.						
		To examine common components of quality-improvement collaboratives (QIC) in healthcare, and to explore relations between QIC components and outcomes at the patient or provider level (27)	Researchers identified 14 cross-cutting structural and process-oriented components, which included in-person learning sessions, telephone meetings, data reporting, feedback, training in QI methods, and use of process-improvement methods. Each included study implemented six or seven QIC components on average. Although some studies reported positive findings for provider outcomes, these authors stressed that the results should be taken with caution, as the outcome measures were largely derived from medical records and did not directly assess changes in provider	2012	4/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	0/20	Not reported	0/20

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			behaviour. Researchers suggest future research to continue studying the effectiveness of QIC, the competence and skill of the QIC faculty, and the quality of implementation of QIC components.						
		To evaluate collaboration between local health and government organizations and examine the resulting health outcomes (80)	The authors raised the idea that collaboration between local health and government organizations is seen as best practice. The review shows that no reliable evidence is available to support that this collaboration leads to improved health outcomes. There were modest improvements in some aspects of health, although no overall gains were made with respect to mental health, lifestyle, chronic diseases and ensuring healthy environments. Incomplete implementation of collaboration programs may be part of the cause of this lack of support, which could be corrected by addressing this in future studies. For effective interventions, there must be an agreement between both health and government organizations with respect to "goals, methods of working, monitoring and evaluation."	2012	11/11 (AMSTAR rating from Program in Policy Decision-making)	1/17	Not reported	Not reported	4/17

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		To explore organizational partnerships and their impact on public health outcomes as well as their influence on reducing health inequalities in England (81)	Limited and partial evidence is currently available regarding the partnerships within healthcare. This limitation is not a significant barrier, but indicates that significant conclusions cannot be drawn without more evidence. This review raises the need for a review of the resource contributions and associated outcomes resulting from these partnerships. Additional and larger studies are required to examine the types of partnerships and local area agreements, and what benefits can be expected from these arrangements.	2008	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/15	0/15	0/15	0/15
		To evaluate the effectiveness of communities of practice used in both the health and business sector and to identify whether there is evidence to support their use in the health sector in order to improve the utilization of best practices and as a way to mentor new practitioners (82)	Communities of practice (CoP) were seen to vary significantly in their structure, including differing levels of formality. CoPs were defined by four characteristics including "social interaction among members, knowledge sharing, knowledge creation, and identity building." The appearance of these characteristics in CoPs was inconsistent. More studies are necessary to determine the effectiveness of CoPs in healthcare settings, and more specifically how the defining characteristics are present in teams.	2005	5/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			None of the studies included met the quantitative analysis criteria, so conclusions from this data were limited.						
	Shape systems	To assess the relationship between knowledge management interventions and technology adoption (30)	The review demonstrates little focus on the association between knowledge management and technology adoption. The authors note a major gap between the impact of networks and leadership development. There is a shortage of data related to the efficiency of knowledge-management interventions, which reflects the difficulty of generating evidence base for this study.	2009	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported
		To analyze examples of successful and less successful transformation initiatives, to synthesize knowledge of the underlying mechanisms of these initiatives, and to provide a clear explanation of the role of government in these initiatives while providing options for future evaluations (90)	The review identified five 'simple rules' of large system transformation that can enhance the success of target initiatives: 1) blend designated leadership with distributed leadership; 2)establish feedback loops; 3) attend to history; 4) engage physicians; and 5) include patients and families. The study also notes that the context of where and when these projects were implemented will have an effect. These various contexts have an effect on some or all the statements listed above.	2010	3/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	20/84
		To identify team-related characteristics or team-directed strategies that are effective in promoting the implementation of nursing innovations, and to	Due to weak research methods, the relationship between team characteristics and team-directed strategies and change in healthcare is unclear.	2006	3/9 (AMSTAR rating from Program in Policy	0/9	0/9	0/9	2/9

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		determine whether these can improve outcomes for patients (75)	Team characteristics associated with implementation of innovations were identified in five studies, and these relate to trust and confidence, clear purpose and leadership. Researchers suggest further research on team characteristics and team-directed strategies to focus on patient outcomes and time and costs invested in strategy delivery.		Decision-making)				
		To assess the evidence of the effectiveness of three popular health-care transformational strategies: Six Sigma, Lean/Toyota Production System, and Studer's Hardwiring Excellence (32)	Reviewed literature reported that transformational strategies are successful in improving certain health-related processes and outcomes, and that their applications are diverse. However, it was noted that very few articles met inclusion criteria, and the few that did had methodological limitations. In addition, there was no substantial evidence for lasting effects, and changes in organizational cultures were not considered.	2007	1/10 (AMSTAR rating from Program in Policy Decision-making)	0/19	10/19	Not reported	0/19
		To identify the factors that affect the implementation of innovations in health systems (85)	Many measures available for use were identified in the organization, and at the provider and innovation levels of organizations. Structural and patient levels had the fewest measures available. Additionally, relatively few measures demonstrated criterion validity, or reliable association with an implementation outcome (e.g.,	2012	4/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported

Option element		Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
			fidelity). This review identifies strategies to identify, adapt and improve measures for use by researcher in their own implementation research.						
		To take stock of what is known about the factors that affect the implementation and sustainability of evidence-based practices, programs and interventions in healthcare settings, as well as to review the methods used, the types of outcomes measured and reported, and the findings from studies that reported long-term implementation outcomes (86)	The use of "sustainability" was common in the studies analyzed, although a common definition was not readily available. Few studies utilized rigorous methods of evaluation, but those that did reported full sustainment or high fidelity. Stability is influenced by factors like organizational context, capacity, processes and aspects of the new program or practice. The majority of the studies listed explored sustainability at multiple implementation centres versus individual or provider level. Further research is necessary to characterize what is meant by sustainability, and the factors that are most influential on this.	2001	3/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	34/125	23/125
Include in the toolkit an inventory of leadership initiatives and leadership certificates		No systematic reviews were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Include in the toolkit existing supports that encourage leadership investments		No systematic reviews were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 5: Systematic reviews relevant to Option 2 – Convene a provincial committee charged with supporting the integration of (and filling of gaps in) leadership initiatives in Ontario's primary- and community-care sectors (i.e., push for something better in Ontario)

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
Work towards common curriculum standards and a common database of curriculum standards	To describe what is known about the knowledge, skills and attitudes of medical students regarding leadership and management to provide evidence to inform curriculum development in this developing field of medical education (23)	Students valued guidelines, audit and quality improvement techniques. There was found to be mixed attitudes to the principles of managed care among students. The authors suggest that this may reflect the current lack of emphasis given to leadership and management within medical education. In general, students have positive attitudes about multidisciplinary teams and believe that doctors should lead these teams. Doctors are increasingly seen as needing to develop leadership and management skills.	2009	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/26	0/26	0/26	0/26
	To identify and analyze the research focused on accreditation and accreditation processes (47)	Promoting change and professional development were the two categories that exhibited consistent findings in accreditation processes. Conversely, five categories had inconsistent findings, including the "professions' attitudes to accreditation, organizational impact, financial impact, quality measures and program assessment." Three categories did not have sufficient studies to draw any conclusions: consumer views or	2007	3/10 (AMSTAR rating from Program in Policy Decision-making)	2/52	2/52	Not reported	0/52

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		patient satisfaction, public disclosure and surveyor issues. Overall, there seems to be a push towards producing evidence to direct the general understanding of accreditation.						
	To evaluate the most effective factors in postgraduate palliative-care curricula to incorporate them into family medicine education (46)	Three outcome groups were identified: communication skills, knowledge, and attitudes and confidence/comfort. Workshops utilizing simulated patients or role play improved communication skills. Short interventions or programs showed objective improvements in targeted knowledge areas, and clinical or multifaceted interventions that had a broad impact on knowledge base. Few studies investigated sustainability. The length of the effects of the outcome has shown that the effects were sustained at future time points. These time points were variable with the longest being one year. A multifaceted approach is suggested for effective palliative-care curriculum to address multiple competencies.	2008	3/10 (AMSTAR rating from Program in Policy Decision-making)	2/28	Not reported	Not reported	0/28
	To determine what characterizes medical-student curriculum in terms of team work, and to assess how effective this education is (45)	The strong educational foundation that teamwork education is based upon seems to only be effective for the short term. Individual teamwork principles	2006	5/11 (AMSTAR rating from www.rxforchange.ca)	0/13	0/13	0/13	0/13

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		were not associated with separated knowledge, skill or attitude effects. A number of principles showed a positive effect on skill and behaviour. The inclusion of teamwork principles in medical-student education would likely produce more effective results, at least in the short term.						
Analyze (or collect and analyze) data about existing leadership capacity	No relevant reviews were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Undertake human-resource planning for leaders in the primary- and community-care sectors	To identify workforce ratios in nine allied health professions, and identify if these approaches are useful for planning workforce requirements (48)	Only one of the 12 articles linked staffing ratios to clinical outcomes. Rehabilitation medicine is where more comprehensive measures were identified, although no indications about how ratios were used in this context were offered. Clinical Practice settings (psychologists, dietitians, and neuro-rehabilitation) indicate current staffing rates as insufficient and that there is increased stress. Evidence is needed to determine what impact staffing ratios have on healthcare in general, but more specifically in the fields of nursing and medicine.	2008	6/9 (AMSTAR rating from Program in Policy Decision-making)	1/12	0/12	0/12	1/12
	To analyze the factors that motivate allied health professionals (AHPs) to work in rural and remote areas (49)	Motivation of staff is composed of both intrinsic and extrinsic factors. Linked to this idea is the notion that job satisfaction has a positive correlation to retention.	2010	2/11 (AMSTAR rating from Program in Policy	6/35	Not reported	Not reported	1/35

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
		Perceived negative circumstances were noted as reasons for AHPs to avoid remote and rural areas. The result of these intrinsic and extrinsic factors is job dissatisfaction, resulting in a very high turnover rate of employees in these areas. The authors suggest intrinsic incentives could be utilized as a strategy to combat this dissatisfaction. The utilization of both extrinsic and intrinsic motivational factors is most likely to address workforce shortages in remote and rural communities.		Decision-making)				
	To undertake an analysis of the implementation of human resources information systems (HRIS) to identify important factors associated with their overall scope and capability, which can help to establish a baseline for future understanding (50)	Many of the studies examined did not explicitly discuss the collection of information, including attrition rate and health worker qualifications. This lack of information leads to the inability to standardize the "HRIS profiles." Without these profiles, the availability and quality of information cannot be assessed to draw significant conclusions. Human-resource strategies could significantly benefit from the increase in data regarding the specifics of the HRIS profile.	2010	3/9 (AMSTAR rating from Program in Policy Decision-making)	1/94	0/94	0/94	1/94

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
	To review the literature in order to identify the challenges faced in recruitment and retention of Canadian home support workers (HSWs) (51)	This review identified four issues that are currently affecting the human resources of HSWs including "compensation, education and training, quality assurance, and working conditions." The approaches suggested to combat recruitment and retention challenges are to improve the marketing to potential employees, improve working environments, and engage more with workers to learn more about them.	2009	2/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported	Not reported
Establish leadership awards for the primary- and community-care sectors	No relevant reviews were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 6: Systematic reviews relevant to Option 3 – Identify and support the participation of current and emerging leaders in Ontario's primary- and community-care sectors in national efforts to create and implement a pan-Canadian leadership initiative (i.e. push for something better in Canada that works for Ontario)

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
Develop leadership curriculum standards for Canada	See Option 2 - 'Work towards common curriculum standards and a common database of curriculum standards'							
Create a 'Canadian leadership passport'	No relevant reviews were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Encourage CIHI to establish national leadership database	To identify and evaluate techniques that can aid the implementation of novel clinical information systems (CIS) within healthcare (34)	There is some evidence for the effectiveness of five techniques mentioned in the review for CIS implementation: 1) system piloting; 2) eliciting acceptance; 3) use of stimulation; 4) training and education; and 5) provision of incentives. Positive impacts on clinical effectiveness were linked with the completion of tasks on the CIS, diagnostic accuracy, and error rates. One study aimed to bridge the gap between user dissatisfaction and satisfaction by focusing on eliciting user acceptance and engagement with clinicians. User dissatisfaction may have stemmed from the lack of formalized support from clinicians within the implementation program. The authors' state the role of leadership should be further assessed and evaluated in the context of CIS implementation.	2013	3/9 (AMSTAR rating from Program in Policy Decision-making)	1/18	1/18	0/18	3/18

Option element	Focus of systematic review	Key findings	Year of last search	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada	Proportion of studies that deal explicitly with one of the prioritized groups	Proportion of studies that focus on supporting leadership	Proportion of studies that focus on primary and/or community care
	To determine how health information systems have been investigated in the literature, what has been investigated, and what outcomes have been observed (52)	Four different types of regional health information systems were found: 1) Regional Health Information Systems (RHIS); 2) Regional Healthcare Information Organizations (RHIO); 3) Disease Specific Regional Healthcare Information System (D-RHIS); and 4) Integrated Regional Healthcare Information System (I-RHIS). Main outcomes of RHIS included better flow of information, better collaboration, process design, usability and changes in organization culture. The review found differences, which concern the RHIS in organizational culture, vision and expectations of leadership, and the non-existence of a consistent strategic plan. There was poor evidence on the system usability of the RHIS due to lack of region-wide management systems or user-friendliness.	2008	3/9 (AMSTAR rating from Program in Policy Decision-making)	1/24	0/24	0/24	2/24
Undertake periodic human-resource planning for Canada	See Option 2 - 'Undertake human-resource planning for leaders in the primary- and community-care sectors'							
Update regularly an inventory of leadership programs in Canada	No relevant studies were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Expand existing Canadian leadership awards	No relevant reviews were identified	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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