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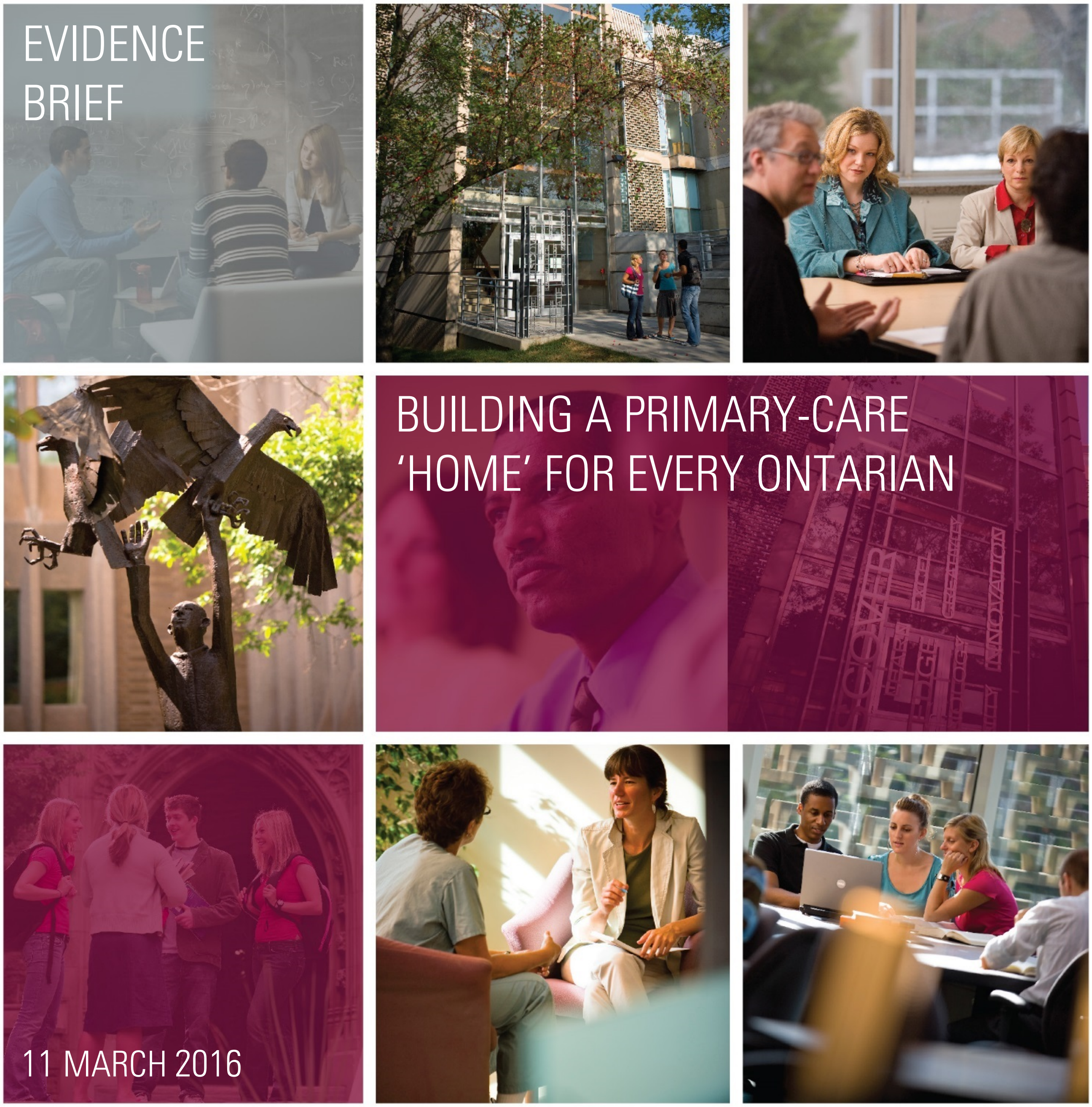

EVIDENCE BRIEF

BUILDING A PRIMARY-CARE 'HOME' FOR EVERY ONTARIAN

11 MARCH 2016

EVIDENCE >> INSIGHT >> ACTION

Evidence Brief:
Building a Primary-Care 'Home' for Every Ontarian

11 March 2016

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 regional/provincial levels 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, but one of us (Robert Reid) was previously employed as a leader at Group Health Cooperative in Washington State, and this brief draws on research about its patient's medical home model. 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 scientific rigour and system relevance.

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KEY MESSAGES

What's the problem?

- Substantial investments have been made to strengthen primary care in Ontario, but many challenges still remain for the effort to build a primary care 'home' for every Ontarian (i.e., an approach to primary care that offers accessible, comprehensive, coordinated and continuing care). These challenges broadly relate to:
    - Ontarians have inequitable access to primary care and many lack timely access when they have a health problem or issue;
    - the patient is not always put at the centre of care as a result of a lack of coordination and limited engagement of patients and citizens;
    - past reforms have tried, with some success, to address these challenges; and
    - achieving widespread success will require taking on both practice-level and system-level challenges.

What do we know (from systematic reviews) about three viable elements of a potentially comprehensive approach to address the problem?

- Element 1 – Harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians
    - This element might include activities related to ensuring all Ontarians receive the care they need, when they need it, putting the patient at the centre of care, and ensuring the full range of care is seamlessly linked across providers, teams and settings.
    - We identified four systematic reviews that evaluated patient-centred medical home models and found a range of benefits related to improving access, informing patients, connecting services and protecting the system.
    - We also identified several systematic reviews that found benefits for approaches that could be used as part of these activities, including advanced access scheduling, team-based models that provide same- or next-day care, secure email and telephone encounters, personalized care plans, self-management supports, decision aids to support shared decision-making, electronic health records to improve quality of care, care coordinators with clinical skills, improved discharge planning, and clinical information systems.
- Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability
    - This element aims to ensure that those making decisions have the evidence they need to make informed decisions and to be accountable for them, which could include: 1) conducting citizen and stakeholder engagement; and 2) designing an evaluation plan before implementing the model, and 3) measuring progress based on priorities identified during citizen and stakeholder engagement.
    - We identified several systematic reviews that identified a range of benefits for citizen and stakeholder engagement processes, as well as reviews about quality-improvement processes that could be used to foster a culture that is supportive of, as well as a plan for, rapid-cycle evaluations.
- Element 3 – Support the full implementation of a primary care 'home' approach to reach all Ontarians
    - This element aims to take what is learned from the evaluation of the model, make adjustments and develop an approach that will allow it to be customized according to local contexts to support system-wide implementation, which could include more citizen and stakeholder engagement of the type described in element 2, as well as using strategies to support change in organizations and systems.
    - In addition to several reviews that profile widely-used approaches to implementation (e.g., Lean and Six Sigma), activities for this element could also be guided by a tool (the Nose to Tail Tool) and a framework (the Reach, Effectiveness, Adoption, Implementation, and Maintenance framework), which are designed to support heath system decision-makers during the development, implementation and scale up of health-system innovations.

What implementation considerations need to be kept in mind?

- Barriers to implementation might include: 1) hesitancy among policymakers to invest in new ways of doing things during a time of 'no new money;' 2) resistance from citizens, providers and organizations to new ways of providing and organizing primary care; 3) difficulty balancing patient expectations against what is feasible given existing resources; and 4) difficulty building consensus among key stakeholders in the health system.
- Windows of opportunity for implementing these elements might include: 1) harnessing the increased attention paid to reforming primary care in Ontario; 2) drawing on momentum created by high-profile proposals to reform primary care and what's working well in different communities; and 3) using primary-care reform to meet larger health-system goals.

REPORT

In December 2015, the Government of Ontario published a proposal for how to achieve its committment to transforming the health system into one that puts the needs of patients at its centre.(1) This proposal is central to the government's latest action plan, which focuses on four key goals:

- improve access – providing faster access to the right care;
- connect services – delivering better coordinated and integrated care in the community and closer to home;
- inform people and patients – providing the education, information and transparency they need to make the right decisions about their health; and
- protect our universal public health system – making evidence-based decisions on value and quality, to sustain the system for generations to come.(2)

These are important goals but not simple ones to achieve.

Strengthening primary care is a key part of the proposal, which is not surprising given that primary care is a foundation of a high-performing health system and is central to achieving high-quality clinical care and an improved patient experience. The proposal emphasizes that strengthening primary care requires ensuring patients have a primary-care physician or nurse practitioner as their most responsible clinical provider of care over time and across problems, as well as access to a team of providers that are brought together based on the patient care needs of the communities they serve. Indeed, it has been found that there is "convincing evidence that strong primary care is associated with lower costs and improved quality of care,"(3;4) and that it can enhance equitable access to needed care over time.(5)

In particular, strengthening primary care is important to achieving each of the four goals because it means:

- improving easy access to primary care as the entry point into the health system, and as the place patients return to after dealing with acute health issues in other settings, such as hospitals;
- connecting people to primary care providers who can both deliver ongoing care and coordinate the care provided by a range of providers in different settings;
- engaging patients in making decisions about their health and healthcare collaboratively with their provider, which:
  - makes them better informed about their care options;
  - has the benefit of primary-care providers such as primary-care physicians and nurse practitioners building caring relationships with patients over time that are based on trust and good communication; and
  - results in better health outcomes, delivery of preventive care and lower costs;(6;7) and

Box 1: Background to the evidence brief
This evidence brief mobilizes both global and local research evidence about a problem, three elements of a potentially comprehensive approach for addressing 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 <u>not</u> 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 viable elements of a comprehensive approach for addressing 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 elements of a potentially comprehensive approach for addressing the problem could be pursued simultaneously or in a sequenced way, and each element could be given greater or lesser attention relative to the others.

The evidence brief was prepared to inform a stakeholder dialogue at 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.

- ensuring that delivery of services is based on patient- and population-level need, which helps to protect the tenets of the province's universal health system.

Moreover, strengthening primary care is central to achieving the following four broad recommendations included in the Government of Ontario's proposal for transforming the system into one that puts the patients at its centre:(1)

1. make care more integrated and responsive to local needs for all Ontarians (i.e., ensuring accountability for primary care to reach all Ontarians);
2. ensure timely access to primary care, and integrated links between primary care and other services settings;
3. provide more consistent and accessible home and community care; and
4. strengthen links between population and public health and other health services.(1)

While these are only recommendations at this point, the paper provides a clear 'window of opportunity' for making progress towards building a capable and responsive primary care 'home' for every Ontarian. Moreover, it has put accountability for providing full coverage for all Ontarians through a primary care 'home' model on the table in a way that could improve the patient experience. One approach for achieving these goals that has received much attention in recent months is to have more decentralized community-based planning and management for primary care in regions and sub-regions. These smaller geographic areas would be accountable for ensuring universal access to primary care for all citizens within a geographic region, much like how public schools serve the needs of grade-school students in their catchment area.

What is a primary care 'home'?

A primary care 'home' incorporates the four defining features of primary care by offering accessible, comprehensive, coordinated, and continuing care (7) to the population it serves through a team-based approach that deploys advances in chronic illness management and clinical prevention. The primary care 'home' vision has also been described in more depth by the College of Family Physicians of Canada through its 10 pillars of the Patient's Medical Home (which we have used to focus more specifically on the concept of a primary care 'home,' which are outlined in Table 1).(8) This model has been identified as being particularly important when considered in the context of what makes people sick (see Figure 1). Specifically, at a population level, healthcare contributes to addressing only about 25% of what makes people sick.(9) But the health system (and particularly primary care) can be designed to do more than just provide healthcare, since it can connect people to needed home and community supports to keep them healthy, and help address many other factors that affect our health (particularly the social determinants of health), and ultimately help reduce health inequities.

Box 2: Equity considerations

A problem may disproportionately affect some groups in society. The benefits, harms and costs of elements of a comprehensive approach 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.

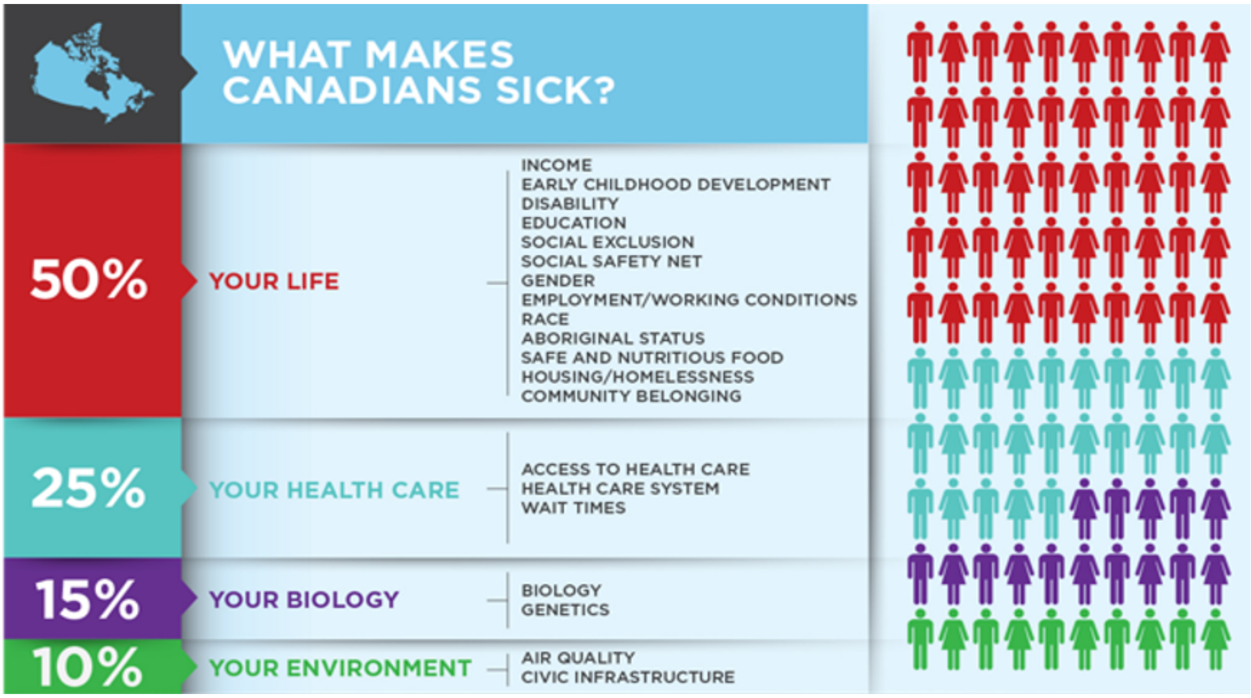
The evidence brief strives to address all Ontarians, but (where possible) it also gives particular attention to:

- Ontarians who are not currently attached to a team-based model of healthcare, particularly those who are the sickest and have the highest needs, such as people living with multiple chronic health conditions and those in specific populations (e.g. First Nations, Inuit and Metis, francophones, people with mental health and addiction issues, and new immigrants).

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.

Figure 1: What makes Canadians sick? (reproduced with the permission of the Canadian Medical Association)(9)



Another fundamental component of building a primary care 'home' for every Ontarian is a focus on providing patient-centred care, which the Institute for Patient- and Family-Centered Care defines as "…an approach to the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families. It redefines the relationships in health care."(10) The same institute further describes four core concepts of patient-centred care:

1) respect and dignity (i.e., providers listening to and respecting patient and family perspectives and choices, with their knowledge, values and beliefs incorporated into care planning and delivery);
2) information sharing (i.e., communicating and sharing timely, complete, unbiased and accurate information with patients and their families to support them to participate in care and decision-making);
3) participation (i.e., encouraging and supporting patients and their families to participate in care and decision-making in ways they are comfortable with); and
4) collaboration (i.e., healthcare providers and system leaders collaborating with patients and their families "in policy and program development, implementation, and evaluation; in health care facility design; and in professional education, as well as in the delivery of care").(10)

Table 1: Primary care 'home' pillars (table adapted from www.patientsmedicalhome.ca) (11)

Pillar	Description
Provide patient-centred care	• Care that is focused on the individual patient and tailored to their specific needs.
Provide access to a most responsible care provider	• This is the 'point person' for each patient's care and could be a primary-care physician or nurse practitioner as the clinical leader who works as part of a team, and assumes responsibility for delivering patient-centred care over time.
Deliver care using teams	• A primary care 'home' may provide many services to keep patients healthy and help when they're sick, with these services being provided by teams or networks of providers. • Team members typically include primary-care physicians, nurse practitioners, registered nurses, pharmacists, other professionals (e.g., dietitians and social workers), and staff (e.g., medical assistants).
Ensure timely access to care	• A primary care 'home' would provide ready access to care when patients have health concerns (this could include 24/7 access, including weekends, much like the medical home models in the United States). • This typically means interacting with a care provider or one of their team members the same- or next-day when a consultation is requested (which could be done over the phone, by email, online or in-person depending on the nature of the health concern).
Provide comprehensive and coordinated care	• Patients receive access to a broad range of care and services, which include home and community care (e.g., home care, therapy for mental health and addictions and travel to medical appointments), as well as preventive services (e.g., screening, counselling for risky behaviours). • These services are also seamlessly linked across providers, teams and settings.
Ensure continuity of care	• A primary care 'home' ensures patients have a continuous relationship with a provider or team of providers that endures over time.
Use electronic medical records to support patients	• A primary care 'home' uses and coordinates care across providers and settings by using electronic medical records, to which patients should have access and which are also essential for supporting the delivery of evidence-based care and preventive services (e.g., through reminders and prompts for clinicians).
Support education, training and research	• Primary care 'homes' provide ideal sites for training physicians and other healthcare professionals such as nurse practitioners, and for conducting research that informs ongoing efforts to strengthen primary care.
Implement evaluation and quality improvement	• As part of continuous quality improvement, primary care 'homes' carry out iterative and ongoing evaluation and continuous improvement of the effectiveness services provided, and progress towards achieving goals relevant to patients, providers, organizations and systems.
Ensure strong internal and external supports	• Primary care 'homes' need to draw on strong internal (i.e., governance and management structures) and external supports (i.e., engaging citizens and relevant stakeholders) to continue to improve care for their patients and contribute to achieving system-level goals. • An important part of this pillar is ensuring that patients are engaged in care redesign and quality improvement activities.

Overview of contextual factors related to building a primary-care 'home' for every Ontarian

There are several features of the health system, other sectors that intersect with the health system, as well as features of specific populations that are important to take into account in the context of building a primary-care 'home' for every Ontarian. We provide a summary of these factors below to assist with interpreting the information presented about the problem, three elements of a potentially comprehensive approach for addressing the problem, and implementation considerations.

Features of the Ontario health system most relevant to primary care

- Medically necessary care for eligible Ontario residents that is provided in hospitals and by physicians is fully paid for as part of Ontario's publicly funded health system.
- Care and support provided by other clinicians such as nurses (including nurse practitioners), physiotherapists, occupational therapists and dietitians are typically not paid for by the health system unless provided in a hospital or long-term care setting, or in the community when coordinated through Family Health Teams, Community Health Centres, Community Care Access Centres, and other designated clinics.
- Other healthcare and community services such as prescription drug coverage, community support services and long-term care homes may be wholly, partly or not paid for by the health system, and any remaining costs need to be paid by patients, families or their private insurance plans.
- Fourteen geographically defined Local Health Integration Networks (LHINs) have responsibility for the planning, funding and integration of healthcare in their regions, and for ensuring that the different parts of the health system in their regions work together (although they do not currently have oversight of physician, drug and public health budgets).
- The most recent estimates of the health workforce in Ontario indicate that for every 100,000 Ontarians there are approximately 100 family physicians, 102 specialists, 699 registered nurses (including 14 nurse practitioners), 83 pharmacists, 48 physiotherapists and 38 occupational therapists,(12) and of the 28,422 physicians in the province, 51% are specialists, with the majority (99%) practising in urban centres (but most of the nurses and some of the other professionals do not work in primary-care settings).(13)
- In primary care, the Ontario health workforce currently provides 94% of Ontarians with a primary-care provider (as reported by patients).(14)
- Primary care can be accessed by Ontarians in several ways, including through team-based models that currently reach 25% of the population through 184 Family Health Teams, 105 Community Health Centres (serving primarily hard-to-reach communities and disadvantaged populations that may have difficulty accessing healthcare services and which have salaried physicians), 26 Nurse Practitioner-led Clinics,(15) and 10 Aboriginal Health Access Centres, and through other primary-care models including family physicians working in solo practice or in Family Health Organizations (n=434), Family Health Groups (n=227) and Family Health Networks (n=24).(12)

Features most relevant to home and community care

- Fourteen Community Care Access Centres (CCACs) – one for each LHIN – have responsibility for determining need for home and community care, and then connecting people with the care they need (although the most recent proposal for strengthening patient-centred care in Ontario has suggested that CCAC functions could be absorbed into LHINs).
- Home and community care can be delivered through many points of contact, including: 733 not-for-profit community support-service agencies that provide assistance (including personal support for household tasks, transportation, meals, supportive housing and adult day programs) to more than 800,000 community-dwelling Ontarians (including older adults, and people with a physical disability and/or mental health and addiction issues); 487 mental health and addiction organizations; 245 diabetes education centres; and 55 emergency medical service organizations.(16)
- The 36 public health units, which are typically linked to municipal government, are not aligned with the boundaries of the LHINs (although the recent discussion paper from the province for strengthening patient-

centred care proposes placing their budgets in the LHINs). The public health units provide a range of health-promotion and disease-prevention programs, including those that inform the public about healthy lifestyles, provide communicable disease control (e.g., education in STDs/AIDS, immunization and food inspection), and support healthy growth and development (e.g., parenting education, health education for all age groups, and selected screening services).(17)

Features for specific populations

- Health Links (69 of an anticipated total of 90) support the delivery of integrated care for those with complex needs, which is typically people living with four or more chronic diseases and who comprise roughly 5% of the population.
- The 10 Aboriginal Health Access Centres provide community-led, primary healthcare, including many services related to chronic-disease prevention and management, as well as a combination of traditional healing, primary care, cultural programs, health-promotion programs, community-development initiatives, and social-support services to First Nations, Métis and Inuit communities.(18)
- Rural-Northern Physician Group Agreements support one to seven physicians per location to serve rural and northern communities with a nurse-staffed, after-hours Telephone Health Advisory Service for enrolled patients seeking care for a range of issues, including chronic diseases.(19)

THE PROBLEM

Substantial investments have been made to strengthen primary care in Ontario (e.g., through reforms that resulted in the implementation of Family Health Teams), but many challenges still remain for the effort to build a primary-care 'home' for every Ontarian. Taking these steps is challenging because it requires a patient-centred approach that is built on the core principles of primary care by offering accessible, comprehensive, coordinated and continuing care. These challenges, and the key factors contributing to these challenges, broadly relate to:

- Ontarians have inequitable access to primary care and many lack timely access when they have a health problem or issue;
- the patient is not always put at the centre of care as a result of a lack of coordination and limited engagement of patients and citizens;
- past reforms have tried, with some success, to address these challenges; and
- achieving widespread success will require taking on system-level challenges.

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 a comparative dimension to an understanding of the problem was sought using three health services research "hedges" in MedLine, namely those for appropriateness, processes and outcomes of care (which increase the chances of us identifying administrative database studies and community surveys). Published literature that provided insights into alternative ways of framing the problem was sought using a fourth hedge in MedLine, namely the one for qualitative research. Grey literature was sought by reviewing the websites of a number of Canadian and international organizations, such as the Institute for Clinical Evaluative Sciences, Health Quality Ontario, and the Canadian Institute for Health Information.

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.

Ontarians have inequitable access to primary care and many lack timely access when they have a health problem or issue

Ninety-four percent of Ontarians report that they have a primary-care provider.(14) This puts Ontario slightly above the national average and in the 'middle of the pack' when compared to similar countries.(14;20) However, access to primary care is not equal for all Ontarians. For example, those often not served well by the health system are those who are often marginalized, including Indigenous peoples, cultural groups (particularly recent immigrants and refugees), people living with mental health problems and addictions, and Francophones.(1)

Access also varies depending on where you live in Ontario. At the low end, 87% of those living in the North West LHIN (a large region of the province that includes many First Nations communities with the major city being Thunder Bay) reported having a primary-care provider, as compared to 97% in the South East LHIN (which is northeast of Toronto).(14)

Many Ontarians indicate that primary care is not available when they need it. Recent estimates indicate that only 40% of Ontarians report receiving a same- or next-day appointment with a clinician when they are sick. While this is similar to the national average of 38%, it is the lowest in a recent comparison of 11 countries, with Germany (78%), New Zealand (68%) and Switzerland (67%) as the top performers, and the remaining countries clustered between 44% (in the United States) to 66% (in the Netherlands).(20) Similarly, 56% of Ontarians report difficulty accessing care after-hours,(20) which is likely because primary-care practices and physicians are not generally accountable for providing extended hours for patients to access care. This percentage is substantially higher than most of the other 13 countries surveyed (e.g., only 29% reported difficulty in the United Kingdom).(20)

A slightly rosier story emerges when physicians rather than patients are surveyed. For example, 53% of Canadian primary-care physicians report that most of their patients who request a same- or next-day appointment can get one.(21) The same survey found that less than half (48%) of Canadian doctors have a mechanism in place that allows their patients to see a doctor or nurse who knows them or has access to their medical records when their practice is closed.(21) While these results are also among the lowest in comparison with other countries in the survey, one-third more doctors in Canada report that they are able to provide same- or next-day access in 2015 than in 2009.(21)

Providing timely access to care is likely to become more challenging because of increased demands being placed on the health system, given the growing number of people living with one or more chronic diseases such as diabetes, cancer, heart disease, mental health and addictions, and arthritis. It has been estimated that 29% of Canadians have one chronic health condition, 15% have two chronic health conditions, and 11% have three or more.(22) Amongst those who are considered to be the sickest Canadians (i.e., those living with multiple chronic conditions), 70% have two or more chronic health conditions.(22) The potential challenges related to accessing chronic care affect many groups in the province, including:

- older adults: 43% of Ontarians over the age of 65 are living with two or more chronic health conditions, and the risks for chronic disease grow steadily with age;(23)
- younger adults: 12% of younger adults have three or more chronic conditions;(24)
- women: 14% of Canadian women have two or more chronic health conditions as compared to 11% of men (across all age groups);(24) and
- vulnerable groups: 40% of low-income Canadians have one or more chronic health conditions, compared to 27% of high-income Canadians.(22;24;25)

The patient is not always put at the centre of care as a result of a lack of coordination and limited engagement of patients and citizens

A recent analysis of the performance of Ontario's health system found that 86% of adults indicated they were always or often involved in decisions about their healthcare.(14) This level of involvement is average when compared against peer countries, and only marginally lower than the best-performing countries, such as in the United Kingdom (87%) and New Zealand (88%).(14)

Even though patients report relatively high levels of involvement in their care, there are at least three ways in which the patient is not put at the centre of care. First, a lack of interprofessional collaboration limits the health system's capacity to deliver better coordinated and integrated care. Interprofessional collaboration has been argued to be key to delivering better coordinated and integrated care, and may improve patients' outcomes.(26-30) However, such collaboration and partnership with patients in planning their care and making decisions occur relatively infrequently in primary- and community-care settings,(31) and between primary and speciality care given that transitions between these settings are particularly challenging.(32)

Second, a lack of comprehensive information and communication technology infrastructure limits the health system's capacity to deliver better coordinated and integrated care, and to deliver information to patients in a transparent, accessible and timely way. While the health system does have widespread implementation of electronic medical record systems within primary-care practices, as well as the ability to monitor utilization through administrative databases, the health system currently lacks interoperable electronic health records. Without access to patient information through interoperable electronic health records, it is difficult to provide coordinated care across different care providers such as primary-care physicians, nurse practitioners, pharmacists and specialists working across settings such as primary care, hospitals and home and community care (as well as within large organizations such as hospitals where specialists often have to access several databases to get all the information they need about a patient). In addition, without interoperable electronic health records, there is an inability to monitor and evaluate primary care delivered to populations.

Lastly, despite broad recognition about the need to empower patients to take on a greater role in managing their own care and in determining how the system should be designed to make sure it works for them,(33) patients, families and caregivers often lack the supports they need to engage in these types of activities. Without such supports, care may not be patient-centred and policy developed to address macro- and micro-level health-system issues may not be based on citizens' values and preferences. For example, a recent paper about the future of public involvement in health policy states that "public involvement is valued in theory, but too frequently sacrificed upon an altar of pragmatism: getting the public involved is considered too complex, too time consuming, too costly and its benefits too nebulous."(34)

The above factors contribute to a lack of coordination in different ways, which makes it challenging to connect patients to what they need in the health system. Specifically, lack of coordination and integration with other sectors (e.g., public health) makes it difficult to provide a population-level, team-based approach that offers a comprehensive range of care and support based on patient need. For example, the sickest Ontarians, such as those with multiple chronic health conditions and/or developmental disabilities, pose a significant and growing challenge for providing care that is coordinated and patient-centred. These sickest patients and their caregivers can be left to navigate a complex system where they have to see a primary-care physician, set and attend appointments with several specialists in different settings, manage many medications, organize home-based care, and identify additional supports (such as transportation) that they may need.

Past reforms have tried, with some success, to address these challenges

The components of the health system in Ontario that most closely resemble the primary care 'home' concept are the 184 Family Health Teams,(35) the 75 Community Health Centres, 26 Nurse Practitioner-led Clinics and the 10 Aboriginal Health Access Centres. In general, Family Health Teams include "a team of physicians, nurse practitioners, registered nurses, social workers, dietitians, and other professionals who work together to provide primary health care for their community."(36) Family Health Teams are accountable for a roster of patients and ensure they receive accessible, continuous, comprehensive, and coordinated care, with physicians paid through blended capitation, base payment plus bonuses and incentives, and/or blended salary. Community health centres consist of interdisciplinary teams that serve hard-to-serve communities and populations that may have trouble accessing healthcare services. These centres have salaried physicians, focus on addressing the underlying conditions that affect people's health, and offer regular and extended hours. Aboriginal Health Access Centres provide a combination of traditional healing, primary care, cultural programs, health promotion programs, community-development initiatives, and social support services to First Nations, Métis and Inuit communities.(18)

Supporting these primary care models are the 69 (of an anticipated 90) Community Health Links that support the delivery of integrated care for those with complex needs, and who therefore need enhanced access to the health system as well as home and community care. While the impact of Health Links on patient experience, health outcomes and costs has not yet been evaluated, an evaluation plan (beyond the rapid-cycle evaluations of process outcomes that have been conducted)(37) is currently being developed.

Evaluations of Family Health Teams indicate that they seem to address some of the access issues noted earlier, with wait times for care reduced, approximately 79% of patients being able to get same-day appointments, greater access to a broader scope of services (including prevention and health promotion to keep people healthy), enhanced coordination with specialist care, greater provision of patient-centred care (e.g., by facilitating long-term relationships with a most responsible care provider), and formalizing the provision of chronic disease management.(38) Family Health Teams have also achieved high satisfaction among patients and physicians.(30;35)

However, given that Family Health Teams are limited in number and therefore in coverage of Ontarians, these benefits cannot reach all Ontarians. More specifically, a recent evaluation of Family Health Teams, indicates that they:

- reach 25% of the population (this includes those receiving team-based care through other settings such as community and Aboriginal health centres and nurse practitioner-led clinics);
- typically reach healthier patients instead of those with multiple chronic conditions who typically need interprofessional care the most (which, as outlined later, is at least partially driven by the way capitation payments are adjusted);
- have patients with higher incomes;

- have low numbers of recent immigrants enrolled; and
- are more often located in non-major urban areas or rural areas as compared to major urban areas.(15)

The same report also revealed that from their implementation in 2007 to 2011-12, Family Health Teams performed well on some indicators such as cancer screening and diabetes care, but their patients use emergency departments more than patients in other models of care, and there are few differences in hospital admissions/readmissions and in specialist visits.(15)

In contrast to Family Health Teams, Community Health Centres typically serve low-income populations, at-risk populations in urban centres (e.g., homeless and/or those who have issues with mental health and addictions), recent immigrants and those with high levels of co-morbidity.(15;39) Community Health Centres also do not perform as well (in comparison to averages across other primary care models) on patient use of emergency departments, hospital readmissions and specialist visits, which is at least partially attributable to significantly higher rates of use by at-risk urban populations, demonstrating a need for better coordinated team-based care for these populations.(15;39)

Achieving widespread success will require taking on additional system-level challenges

Fixing these issues is not easy and requires addressing many system-level challenges. A big part of the challenge for building a primary care 'home' for all Ontarians is that resources need to be redistributed, and the system designed, in a way that is flexible enough to address the needs of the healthiest to the sickest patients.

Doing this is difficult and, in addition to the factors outlined earlier, there are several additional components of the health system that complicate the situation:

- physicians are currently not able to create a new team-based practice such as a Family Health Team, most cannot move into an existing team-based practice except in "areas of high physician need,"(40;41) and allied health professionals working in Family Health Teams are required to only serve patients in their team's roster, which prevents any resource sharing to other patients in the same geographic area;
- primary-care professionals other than physicians (e.g., nurses, physiotherapists, dietitians and pharmacists), are typically not paid for by the health system unless provided in a hospital or long-term care setting, or in the community when coordinated through Family Health Teams, Community Care Access Centres, and other designated clinics;
- the way physicians are paid is one reason for why access to team-based care in Ontario is unequal, and why those who are sicker and living in urban areas are less likely to receive team-based care, because almost all capitation contracts in Ontario are adjusted only for age and sex and do not account for medical complexity or other factors that could make patients sicker (this likely results in risk selection of patients given that payment models are not adjusted to support care for sicker patients);
- most physicians feel they are not well prepared to manage the care of patients with complex needs, including coordinating care and communicating with other providers and settings of care (e.g., hospital- and home-based care);(42)
- a core challenge for implementing new models is that there is generally no training, support and/or coaching (e.g., practice coaching or practice facilitation) for physicians and their teams to support them to transition to working in a primary care 'home;'
- formal plans for ongoing quality improvement based on data and evidence is a requirement for interprofessional, team-based primary-care organizations in Ontario, but some lack resources to do this well, and this is not required (or supported) for those working in other models such as solo practice; and
- "public health services are disconnected from the rest of the health care system, and population health is not a consistent part of health system planning," which makes it challenging to address 'upstream' factors that keep people healthier for longer.(1)

Additional equity-related observations about the problem

As noted previously, having access to timely, coordinated and integrated primary care is important because it results in better health outcomes for individuals and populations, can help reduce inequities in health (e.g., by those of low socio-economic status), and can reduce total costs for the healthcare system.(5;14) However, access to care (and hence patient-level health outcomes) is influenced by a number of system-level factors such as the availability and distribution of primary care (e.g., where care is available across the province), medical factors such as having multiple chronic conditions, and social factors such as being part of a socially and/or economically marginalized group (e.g., indigenous peoples and recent immigrants) and living in poverty.(14;39;43) The importance of such equity issues have been identified in a number of Ontario policy documents related to chronic disease prevention.(44)

Ontarians who are not currently attached to a team-based care model, particularly those who have the highest needs (e.g., those with multiple chronic conditions) may experience a range of barriers to accessing the care they need. For example, a recent study in Ontario found that as the number of chronic conditions increased from one-to-three to four or more, the odds of experiencing difficulty accessing specialist care increased from 2.18 to 3.84 compared to those with no chronic conditions.(45)

The study further identified immigration status, education level, and living in a rural setting as other important indicators of difficulties for accessing specialist care.(45) In addition to rural and urban differences, further differences have been identified within the same city based on neighbourhood, with significantly reduced access for linguistic minorities.(43) Age is also a factor in determining the type and amount of care people living with chronic conditions receive, with an Ontario study based on data from the Institute for Clinical Evaluative Sciences (ICES) reporting that adults between the ages 20 and 44 living with six or more diseases had 10 primary health-care and 10 specialist visits per year, compared to those aged 85 years and older with six or more diseases who had more primary healthcare visits at 11 per year, but only four specialist visits in the same period.(46) Timely access to specialist care is important for reducing the burden of chronic illness, but a Commonwealth Fund survey found that among 11 surveyed countries, older Canadians have the longest reported wait times to see a specialist with 25% waiting two months or more.(47)

In a recent report about what Canadian physicians can do to ameliorate the deleterious effects of the social determinants of health on their patients and address health equity issues in their practice, those interviewed identified "linking patients with supportive community programs and services" as the number one intervention to address health equity issues. This was understood to help with managing social and economic needs, and with compliance and treatment plans. The study further identified the importance of "interdisciplinary team-based practice settings" and having "a relationship with community services and programs" as important areas for intervention.(48) Towards creating change, physicians identified improved training, interdisciplinary team-based practice, and relationships with community services and programs as the top three facilitators.(48) In terms of potential action items for practice, they identified the need for the "development/consolidation and dissemination of plain language resources for patients on chronic disease management."(48)

Citizens' views about key challenges related to building a primary care 'home' for every Ontarian

During a citizen panel convened on 6 February 2016, an ethnoculturally and socioeconomically diverse group of 15 Ontarians were provided a version of this evidence brief written in lay language.(49) During the deliberation about the problem, citizens were asked to share what they view as the key challenges related to building a primary care 'home' for every Ontarian. To prompt discussion, citizens were asked to consider challenges they have faced in accessing primary care, and what specific challenges might arise for the sickest patients, those with some ongoing care needs, and those with no chronic conditions but who may need periodic preventive care. We summarize the key challenges identified by citizens in Table 2. In addition to themes presented in Table 2, one participant questioned if 'home' is an appropriate term and instead suggested that a more appropriate and less confusing term could be 'healthcare hub,' and other participants generally agreed.

Table 2: Summary of citizens' views about challenges

Challenge	Description
Lack of coordination and communication between primary-care providers, specialists and other care providers in a care team (e.g., pharmacists)	• There was general agreement that the communication and record-sharing system between primary-care providers and specialists in the province is "antiquated." • Several participants shared stories of miscommunications among their primary-care provider, specialists and home- and community-care providers, which included their primary-care provider not being aware of treatment plans made by specialists, or what patients need or are receiving from home and community care.
Limited use of patient-friendly technology that are accessible to patients and their families	• Several participants expressed frustration about not having access to their own medical records that would allow them to be full partners with their care providers in their own care. • Many also indicated that it can be difficult and costly to move medical records between providers, particularly for those with multiple chronic conditions who may have separate records kept by different providers and in different sites.
Difficulty accessing care when needed	• The majority of participants had experienced challenges with accessing primary care for themselves or for their family members. • Participants described a range of challenges related to finding a primary-care provider, including: o difficulty with finding a new primary-care provider after their long-term provider retired or moved to another part of the province or country (with some having done this several times over a short period of time); o travelling long distances for primary care to ensure continuity of care and a trusting relationship with a care provider for family members who are unable to find a provider locally; o regular use of walk-in clinics for many patients who need to access primary care (e.g., due to long-standing difficulty with finding a primary-care provider willing to enrol them in their practice), resulting in them not having a continuous relationship with a provider; and o refusal of primary-care practices to take on new patients with complex needs, such as those with multiple chronic conditions, mental health and addictions issues, and/or seniors. • Some noted that their lack of consistent access to primary care meant not being able to access specialist care when they needed it. • Participants acknowledged the challenge of what can be expected in terms of 'timely care,' with some indicating that 24/7 access to primary care is unrealistic and will likely overburden the system, while others felt that access can be improved without overburdening the system (e.g., by focusing on providing extended hours when most would need it, such as in the evenings and over the weekend), but that supports to do so are not used consistently (e.g., telephone and email consultations) and not used to their maximum potential (e.g., use of nurse practitioners).
System not always focusing on the perspective of the patient	• Many of the participants expressed concern with the way appointments are made in primary-care settings, with many questioning why appointments would be made in the order in which patients contact their provider, rather than based on need (e.g., through a telephone-based triage process where a qualified team member assesses who needs to be seen, by whom and in what order), and why email and telephone consultations are not used more to avoid

	unnecessary in-person appointments. • Several participants shared the concern that "most patients don't have a clue what's available to them … they just take what they're given," which limits their ability to advocate for themselves and engage in health-seeking behaviours. • Many expressed frustrations with experiences of lack of coordination and communication between providers, which resulted in them "falling through the cracks," having their health deteriorate rapidly, and having to undergo much more intensive procedures to improve it. • Based on many not receiving supports for self-management or for disease prevention and health promotion, many participants questioned whether primary-care physicians are being trained in a way that emphasizes the need to consider the range of a patient's health and wellness needs.
Primary care needs to be more than just 'healthcare'	• Several participants felt that some misuse the healthcare system (e.g., going to the emergency room with a cold), which was attributed by some to a lack of education and supports that empower people to manage some of their own health issues (but with others noting that for many health concerns it is difficult for patients to assess what they need and where they should go for care). • Participants pointed to a number of ways in which primary care does not address the broader range of home and community supports (e.g., support for family/unpaid caregivers who may not be equipped to provide the types of home care needed by a patient, and who experience burnout without respite, transportation to and from appointments, and efforts to decrease isolation as part of efforts to address mental health issues).

THREE ELEMENTS OF A COMPREHENSIVE APPROACH FOR ADDRESSING THE PROBLEM

Many approaches could be selected as a starting point for deliberations about building a primary care 'home' for every Ontarian. To promote discussion about the pros and cons of potentially viable approaches, we have selected three elements of a larger, more comprehensive approach for building a primary care 'home' for every Ontarian. The three elements were developed and refined through consultation with the Steering Committee and key informants who we interviewed during the development of this evidence brief. The elements are:

1) harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians;
2) implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability; and
3) support the full implementation of a primary care 'home' approach to reach all Ontarians.

Together, these elements mirror the process that was used by the Group Health Cooperative in Washington State to implement one of the earliest patient-centered medical 'home' demonstrations in the United States.(3;50;51) The components of the model will need to be different since the health systems in Canada and the United States are very different. But, the process of harnessing existing resources to build a model, evaluating it and then supporting system-wide implementation can be adopted with a 'made in Ontario' primary care 'home' model.

The elements could be pursued separately or simultaneously, or components could be drawn from each element to create a new (fourth) element. They are presented separately to foster deliberations about their respective components, the relative importance or priority of each, their interconnectedness and potential of or need for sequencing, and their feasibility.

The principal focus in this section is on what is known about these elements based on findings from systematic reviews. We present the findings from systematic reviews along with an appraisal of whether their methodological quality (using the AMSTAR tool) (52) is high (scores of 8 or higher out of a possible 11), medium (scores of 4-7) or low (scores less than 4) (see the appendix for more details about the quality-appraisal process). We also highlight whether they were conducted recently, which we define as the search being conducted within the last five years. In the next section, the focus turns to the barriers to adopting and implementing these elements, and to possible implementation strategies to address the barriers.

Box 4: Mobilizing research evidence about elements of a comprehensive approach for addressing the problem

The available research evidence about elements of a comprehensive approach for addressing the problem was sought primarily from Health Systems Evidence (www.healthsystemsevidence.org), which is a continuously updated database containing more than 5,000 systematic reviews and more than 2,400 economic evaluations of delivery, financial and governance arrangements within health systems. The reviews and economic evaluations were identified by searching the database for reviews addressing features of each of the approach elements and sub-elements.

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 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 lack of attention to equity considerations, primary research could be commissioned, or an element 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 element may want to search for a more detailed description of the element or for additional research evidence about the element.

Citizens' values and preferences related to the elements

During the citizen panel convened in February 2016, we included three elements of a potentially comprehensive approach to address the problem, which are included in element 1 of this brief. The elements are:

1) ensuring all Ontarians receive the care they need, when they need it;
2) putting the patient at the centre of care; and
3) ensuring the full range of care is seamlessly linked across providers, teams and settings.

During the deliberations, we identified several values and preferences from citizens in relation to these elements, which we summarize in Table 3.

Table 3: Citizens' values and preferences related to the three elements

Element	Values expressed	Preferences for how to implement the element
Ensuring all Ontarians receive the care they need, when they need it	• Access • Choice • Competence/expertise • Collaboration among patients, providers, teams and organizations within the health system	• Adopt supports and processes to ensure care is provided in a timely fashion to address health issues before they worsen (e.g., by using a range of appointment-booking options and adopting a triage approach in primary care by having skilled health professionals ensure care is delivered first to those with the most pressing needs). • Improve the availability of team-based care as well as the ability of team members such as nurse practitioners and pharmacists to work to their full scope of practice within teams (with most supportive of the idea of receiving care from non-physician team members to make the best use of each team member's skills). • Increase the availability of alternative approaches for delivering care (e.g., making better use of telephone and email consultations for patients who are comfortable with using these modes of communication for some of their care). • Provide more 'one-stop shops' for needed care to avoid travel to multiple sites (e.g., by having sites be able to provide care, tests and other services at one site). • Implement strong training and retention incentives for primary-care providers (physicians and other team members) to ensure the province has the health human resources it needs, and who work where they are most needed. • Provide coverage for needed prescription drugs to provide access without financial barriers to the full range of needed care.
Putting the patient at the centre of care	• Continuously improving (quality) • Competence/expertise • Trusting relationships between patients and doctors, among many others (solidarity)	• Implement patient-friendly information technology (e.g., using email or 'patient portals' to make test results available without an appointment). • Engage in shared decision-making in a way that is supportive and respectful of patients, which could be supported through provider-targeted training. • Provide education and information to empower patients to make decisions to promote their health and wellness (to support preventive care), as well as to equip them to manage their care (and to do this in a way that ensures supports for self-management are made available at the population level). • Ensure access to a most responsible care provider that a patient can build a trusting relationship with over time.
Ensuring the full range of care is seamlessly linked across providers, teams and settings	• Competence/expertise • Innovation • Collaboration among patients, providers and organizations within the health system • Collaboration between the health system and other sectors • Accountability	• Improve communication and integration between providers, teams and settings through the system-wide implementation of interoperable electronic health records (e.g., by prompting primary-care providers to follow-up on test results and after appointments with specialists). • Ensure healthcare providers receive appropriate training about how to engage and communicate with patients, other providers and staff. • Provide supports needed to help patients access the care they need across different providers, teams and settings (e.g., transportation, as well as using information and communication technology)

Element 1 – Harness existing resources to develop an approach for providing a primary care ‘home’ to all Ontarians

This element might include sub-elements to:

- ensure all Ontarians receive the care they need, when they need it;
- put the patient at the centre of care; and
- ensure the full range of care is seamlessly linked across providers, teams and settings.

To inform deliberations about this element, we have summarized in Table 4 key findings from one high-quality (53) and three medium-quality (54-56) systematic reviews that have evaluated primary care ‘home’ models, as well as the largest system-wide evaluation of the implementation of a medical ‘home.’(3;50;51;57) We have summarized these findings as they relate to the four health-system goals in Ontario.

Table 4. Summary of benefits of primary care ‘homes’

Health-system goals in Ontario	Potential benefits
Improve access	• Primary care ‘homes’ appear promising to: o increase access to specialists;(50;51) o improve patients’ care experiences and satisfaction;(3;50;51;53;55) and o improve clinician experiences.(50;51;53;55)
Inform people and patients	• Primary care ‘homes’ have high rates of use of technologies such as secure electronic message threads and telephone calls to prepare patients for visits.(3;50) • The use of shared electronic health records, including electronic communication, has been useful for keeping patients engaged, maintaining continuity of care, and improving access, and the availability of electronic records and communication can also serve as decision-support tools to help providers deliver care.(51)
Connect services	• Primary care ‘homes’ have been shown to improve: o patient-perceived level of care coordination;(51;53;55) and o care processes for delivering preventive services.(53;55)
Protect the system	• Primary care ‘homes’ have been found to: o reduce primary care office visits (with larger declines over time) as a result of increases in use of secure electronic messages and telephone encounters;(3) o reduce clinician burnout when rosters are an appropriate size;(3;50;51;55) o reduce hospitalizations (58) and care in sub-optimal settings like emergency departments;(3;50;51;54;55;58) and o keep costs manageable (there is mixed evidence on costs but the evidence suggests that investments in additional staffing are recovered),(3;51) and reduce costs for providing care to high-needs patients.(58)

In addition, in Table 5, we summarize activities that could be included in three sub-elements outlined above along with a summary of the benefits, harms and costs identified from systematic reviews that we included. For those who want more detail about the findings contained in Tables 4 and 5 (or obtain citations for the reviews), Appendix 1a provides a fuller description of the findings from the reviews and Appendix 1b provides detailed information about each review.

Table 5: Key findings from systematic reviews relevant to Element 1 – Harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians

Sub-element	Types of activities that could be included	Key findings from systematic reviews
Ensure all Ontarians receive the care they need, when they need it	• Providing patient-driven scheduling to ensure timely access (i.e., access to same- or next-day appointment, with priority for those who need it most) • Using team-based models differently to ensure health professionals are practising to their full scope of practice, and in ways that provide same- or next-day access to care for all Ontarians (with those who are sickest seeing a physician, those who are healthy and need routine care seeing another team member such as a nurse practitioner, and those seeking after-hours care being linked to an available team member) • Using secure email and telephone encounters to enhance access, and to prepare for, follow-up from, or substitute in-person visits	*Benefits* • Advance access scheduling which shifts away from pre-arranged schedules to an open schedule where patients are offered an appointment with their physician on the day they call or at the time of their choosing (within 24 hours if desired), has been found to reduce wait times and no-show rates, but effects on patient satisfaction were mixed.(59) • Patients and clinicians report improved healthcare access, greater satisfaction and enhanced quality of healthcare in the family health team model.(30) • Models of care that use a collaborative team-based approach for people with mental health conditions improve mental and physical quality of life and social role functions when delivered for different disorders and in different settings.(60) • Telemedicine, as compared to face-to-face care or just consultation over the phone, achieves similar health outcomes, and can improve the management of some chronic conditions such as diabetes, but evidence about its costs and acceptability to patients and providers is uncertain.(61) *Harms* • Advance access scheduling has not been associated with any specific harms, but may leave patients with chronic conditions lost to follow-up in an advanced access system.(59) • Telemedicine technology has been associated with technical difficulties in the form of failed data transmission and/or video-conferencing, including monitoring systems which did not alert care providers or transmit their responses.(61) *Costs* • Economic evaluations have found that: o a patient-centred medical home serving seniors had significantly greater quality outcomes without significant cost differences as comparred to usual care;(62) o eTools (electronic tools for health information exchange and health technologies) for people with diabetes showed cost per patient in the usual care group of $30,226 CAD and $29,889 CAD in the intervention group with an incremental cost per patient of -$337 CAD in the intervention group and 0.006 improvement in quality-adjusted life years (QALYs).(63) o specialized nursing practice (patients treated by a nurse practitioner) for people with diabetes showed costs per patient of $30,142 (CAD) as compared to $30,226 in the usual care group of patients treated by a general practioner (GP) (an incremental decrease of $84 and increase in QALYs per patient of 0.003);(63) o enhanced specialized nursing practice (patients treated by a nurse practitioner plus a GP) for people with diabetes showed costs per patients of $30,210 (CAD) as compared to $30,226 in the usual care group of patients treated by a GP (an incremental decrease of $15 and increase in QALYs per patient of 0.040); and o enhanced specialized nursing practice (patients treated by a nurse practitioner plus a GP) for people with coronary artery disease showed costs per patient of $101,855 (CAD) as compared to $111,611 in the usual care group of patients treated by a GP (an incremental decrease of $9,757 and increase in QALYs per patient of 0.018);(63) o a face-to-face treatment program compared with a telephone-based treatment program for patients with

		generalized osteoarthritis cost less (€708);(64) o a program serving adults living in a rural community receiving primary healthcare and emergency services from a team with an on-site nurse practitioner and paramedics as well as an off-site family physician produced decreased total health and social utilization costs from year one (median $3085.75 USD) to year three (median $1918.54 USD);(65) o GP and nurse-led telephone triage resulted in modest cost savings (with slightly more savings for GP-led triage) compared to usual care where patients were managed following the standard protocols for their practice;(66) and o off-site collaborative care using telephone consultation was both more effective and cost-effective as compared to in-person care for depression.(67)
Put the patient at the centre of care	• Developing personalized care plans where patients and clinicians collaboratively develop a care plan to address the patients' health issues • Promoting self-management resources • Supporting shared decision-making with care providers (e.g., through decision aids) • Engaging patients in their care through shared use of electronic health records that allow for laboratory and radiology test results review, online medication review and refills, and provision of "after visit summaries"	*Benefits* • Personalized care planning has been found to improve some indicators of physical and psychological health status, as well as patients' ability to manage their condition.(68) • Approaches to self-management: o can include interventions "designed to develop the abilities of patients to undertake management of health conditions through education, training and support to develop patient knowledge, skills or psychological and social resources;' o can be delivered individually or in groups, face-to-face or remotely and by professionals or peers; and o have been found to reduce health service utilization without negatively affecting patient health.(69) • While approaches to supporting shared decision-making have been found to have limited effects on patient participation/engagement in primary care and on health outcomes,(70;71) they have been shown to improve knowledge, participation, decisional conflict, self-efficacy and satisfaction,(72-74) • Decision aids (materials that help individuals and/or their caregivers make decisions about their healthcare) have been found to be helpful because they: o increase knowledge about healthcare options;(75-78) o encourage consumer involvement;(78) o support realistic perception of outcomes and risk;(76;78-81) o reduce decision-related conflict;(78) o increase patient-practitioner communication;(78) and o support professionals to provide information and counselling about available choices.(75) • Electronic health records have been found to improve the quality of healthcare by allowing providers to make more efficient use of time and adhere to guidelines as well as to reduce medication errors and adverse drug events for patients (none of the studies in the review focused specifically on providing patients access to their medical records).(82) *Harms* • Interventions that promote personalized risk communication for informed decision-making about screening tests (e.g., mammography, colorectal cancer screening, etc.) could be harmful for high-risk patients if they are not introduced and explained carefully (while not addressed in the review, this could also occur if results are made available online for patients but not explained).(76) *Costs* • Systematic reviews and economic evaluations found that:

		○ it is unclear whether limited cost savings resulting from personalized care planning justifies the expense of the model;(68) ○ both paper and computer-based decision aid tools to support women's decision-making in pregnancy and birth are cost-effective;(75) ○ a web-based decision aid for parents deciding about MMR vaccination resulted in the highest vaccine uptake with National Health Service (NHS) costs for the aid being £35.06 compared to a leaflet £42.23 and usual care at £42.23;(83) and ○ mobile phone supported self-monitoring of asthma showed similar health outcomes and health costs to those receiving paper-based monitoring, but the group receiving support through a mobile phone cost more overall because of the need to use an electronic monitoring service (£69 per person), resulting in total higher costs (£315 versus £245).(84)
Ensure the full range of care is seamlessly linked across providers, teams and settings	• Engaging care coordinators to provide system navigation using reliable and accurate information systems to conduct planned outreach for chronic care or preventive care, as well as help the sickest patients know what programs and services are available for them to access, and to assume responsibility for ensuring they are transitioned across providers, teams and settings • Having a patient's primary care 'home' coordinate outreach and follow-up for discharges from hospital and emergency or urgent care visits • Ensuring effective communication between care providers.	*Benefits* • Approaches used to improve coordination of care throughout the system significantly reduce the number of people with chronic conditions (except for those with mental illness) being admitted to hospital, as well as emergency department visits for older adults.(85) • System navigators are a relatively new approach to link people with complex conditions to the care they need, so there is a lack of evidence to determine if they are helpful for supporting transitions between different settings.(86) • Creating tailored discharge plans for patients reduces how long they stay in hospital and the likelihood that they will be readmitted.(87) • Chronic care models that incorporate clinical information systems (i.e., systems such as electronic health records that organize patient and population data to facilitate more efficient care) as one of several components, have been found to improve the functioning of healthcare practices, as well as health outcomes of patients.(88;89) *Harms* • None identified. *Costs* • Systematic reviews and economic evaluations found that: ○ five of nine studies of navigation programs to support chronically ill older adults through healthcare transitions reported positive economic outcomes (including average savings of $1,000 per participant in the intervention group in one study based on the cost difference between emergency room and outpatient visits);(86) ○ there is moderate evidence for a beneficial effect of 33 comprehensive care programs for patients with multiple chronic conditions with incremental savings for the intervention groups ranging from $204 per patient per year in one Canadian study, to $12,260 per patient per year in a study in the United States;(89) ○ discharge planning for pople with congestive heart failure was found to cost $100,353 (CAD) as compared to $101,080 for those receiving using care (an incremental decrease of $728 and an increase in quality adjusted life years per patient of 0.072);(63) ○ in-home care for pople with congestive heart failure was found to cost $90,415 (CAD) per patient as compared to $101,080 per patient in the usual care group (an incremental decrease of $10,665 and an increase in quality adjusted life years per patient of 0.111);(63) and ○ 15 care coordination programs serving fee-for-service Medicare patients (primarily with congestive heart failure, coronary artery disease and diabetes) did not generate net savings.(90)

Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability

The second element aims to ensure that those making decisions about implementing a primary care 'home' for every Ontarian have the evidence they need to make informed decisions and to be accountable for them.

This could include:
1) conducting stakeholder and citizen engagement before, during and after the implementation of the model to identify what adjustments should be made; and
2) designing an evaluation plan before implementing the model, and measuring progress based on priorities identified during citizen and stakeholder engagement.

We provide a brief overview of each sub-element below, and a summary of the key findings from the synthesized research evidence is provided in Table 6. For those who want more detail about the findings contained in Table 4 (or obtain citations for the reviews), Appendix 2a provides a full description of the findings from the reviews and Appendix 2b provides detailed information about each review.

Stakeholder- and citizen-engagement processes

We identified two systematic reviews focused on stakeholders (e.g., physicians and other providers and/or relevant stakeholder organizations),(91;92) and eight systematic reviews that focused on citizen-engagement processes.(93-100) In addition to the findings summarized in Table 4, the reviews also noted that:

- the methodological centrepiece of stakeholder-engagement processes is entering into collaboration with a collective willingness to participate, and placing emphasis on the need to draw on the strengths of each member while respecting their unique positions and expertise;(91)
- citizen engagement in healthcare could mean engaging consumers of healthcare services, community members and/or the public in general, as well as specific sub-groups that are involved in or affected by a particular issue (e.g., people from culturally and linguistically diverse backgrounds);(98)
- the underlying goal of citizen engagement is to obtain public opinion (including from under-represented individuals and groups) to provide insight into social values and ethical principles for consideration in public decisions;(94)
- when adapting citizen-engagement processes (e.g., citizen juries) for specific aims, special attention should be paid to recruitment, independent oversight by a steering committee, duration of the jury, moderation, and respect for volunteer participants;(99)
- common tasks in citizen engagement include developing policy directions, recommendations and tools, and priority setting for resource allocation;(94;99)
- strategies that can be used for citizen engagement vary in their goals, scope of activities and methods used,(98) and processes need to be adapted to the context of the policy issue;(93)
- citizen engagement can be helpful for improving dissemination of information and processes for developing interventions, as well as for enhancing awareness and understanding among citizens;(95;100)
- training of patients and their families, as well as healthcare professionals, is an important component of successfully involving cancer patients and their families in research, policy, planning and practice;(97) and
- involving patients in the planning and development of healthcare plans has several benefits for patients (e.g., improved self-esteem), providers and staff (e.g., rewarding experience), processes for care (e.g., simplified appointment procedures) and broader supports (e.g., improved transportation between sites and access for people with disabilities).(96)

Deliberative processes, such as the one this brief was prepared to inform, could also be used as a stakeholder-engagement process to support the identification of adjustments that are needed to the primary care 'home' approach. A recent systematic review described key features and intended effects of deliberative dialogues, and identified key features of deliberative dialogues, which include ensuring an:(101)

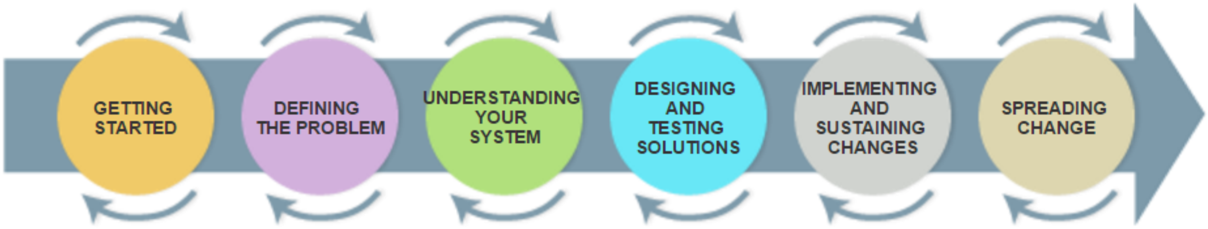
1) appropriate meeting environment (e.g., by ensuring adequate resources, commitment from participants, transparency, timeliness of the issue, appropriate group size, clear meeting rules, pre- and post-meeting tasks and effective facilitation);
2) appropriate mix of participants (e.g., by ensuring fair and balanced representation of those with an interest in the issue, and that participants are motivated and provided with the resources they need to meaningfully engage in the issue); and
3) appropriate use of research evidence (e.g., fostering a clear understanding of the policy issue among all participants by presenting what is currently known about it based on the best available research evidence).

The model further outlines several intended effects of deliberative dialogues, including short-term (e.g., strengthened capacity of participants to address the policy issue), medium-term (e.g., strengthened community or organizational capacity) and long-term effects (e.g., strengthened system capacity to make evidence-informed decisions).(101) In addition, a recent evaluation of deliberative dialogues in six African countries found that they were viewed positively and led to strong intentions to act on what was learned, regardless of the country, health system issue addressed and the group actors investigated.(102)

Designing an evaluation plan

A key piece of designing and implementing iterative evaluations to promote ongoing learning will include ensuring there is capacity for continuous quality improvement across primary care 'homes,' as well as drawing on previous approaches to evaluations that have been used. Quality-improvement interventions refer to the use of formalized and systematic approaches to assessing performance with the aim of using the results to improve health outcomes, patient and family experience, system performance, and professional development/worklife.(103) Figure 2 provides an overview of the quality-improvement framework used by Health Quality Ontario, which includes some components from element 3, and combines features from several quality-improvement models, including those from manufacturing (e.g., LEAN and Six Sigma).(104)

Figure 2: Health Quality Ontario Quality Improvement Framework (figure from Health Quality Ontario)(104)



In addition to the benefits, harms and costs of quality-improvement approaches summarized in Table 4, an older medium-quality review found several contextual factors that were associated with quality-improvement success, including: leadership from top management; a supportive organizational culture; availability of data infrastructure and information systems; experience with or years involved in quality improvement; physician involvement; motivation to change; sufficient resources; and effective team leadership.(105) The same review noted that key limitations for quality-improvement success were a lack of relevant conceptual models, a lack of clear definitions of contextual factors, and a lack of well-specified and sensitive measures.(105)

The approach used by Group Health in Washington State drew on many of these principles to evaluate and eventually spread (covered in element 3 below) the use of their medical home prototype to the rest of the system.(3) Specifically, Group Health developed a patient-centred medical home prototype in a single clinic, and evaluated it over a two-year period using a range of outcomes, including patient experience, quality of care, use of virtual medicine (secure electronic messages and telephone encounters) as compared to face-to-face visits, clinician burnout, patient visits in sub-optimal care settings (e.g., emergency departments), and costs (see Table 4 in element 1 for findings related to these variables).(3) The prototype was then refined based on the findings from the two-year evaluation, and the redesigned model was spread system wide using an iterative improvement methodology across Group Health's other 25 clinics (see element 3 for a description of approaches that were used to support implementation). In Ontario, the nascent practice-based research networks could be one model that is poised to support this type of approach to prototyping, rapid-cycle evaluation and spread.

Table 6: Key findings from systematic reviews relevant to Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability

Sub-element	Key findings from systematic reviews
Stakeholder- and citizen-engagement processes	*Benefits* • One recent review outlined a model for deliberative dialogues and identified possible intended effects of deliberative dialogues, including short-term (e.g., strengthened capacity of participants to address the policy issue), medium-term (e.g., strengthened community or organizational capacity) and long-term effects (e.g., strengthened system capacity to make evidence-informed decisions).(101) • An older high-quality review found some evidence that community engagement improves the dissemination of information and processes for developing interventions.(100) • A recent medium-quality review found that the main benefits of stakeholder engagement in developing and conducting systematic reviews include: identifying and prioritizing topics for research; providing pragmatic feedback on the research protocol; aiding in recruitment of research participants; helping the researchers understand the research subject's perspective; ensuring that findings are interpreted with the end user in mind and that final products are readable and accessible; and facilitating wider dissemination and uptake of research findings.(92) • The same review noted that stakeholder engagement in the topic refinement and research development phase of conducting a systematic review was identified as the point where stakeholder engagement yielded the greatest benefit.(92) *Harms* • An older low-quality review about priority setting for health interventions in developing countries noted important limitations in some of the priority-setting processes studies, including: o using a limited number of criteria to inform priority-setting when a broader set of policy-relevant information could have been included; and o relying exclusively on one technique (e.g., quantitative techniques such as discrete-choice experiments or qualitative techniques such as deliberative processes) to identify respondent preferences when not all criteria relevant to priority setting are amenable to use in a single approach.(106) • A recent medium-quality review indicated that the biggest challenges of engaging stakeholders in the development and conduct of systematic reviews include time and resources, researcher skills for stakeholder engagement, finding the right people, balancing multiple inputs, and understanding the best/most appropriate time in the review process to engage different types of stakeholders.(92) *Costs* • An older low-quality review found that costs related to public-engagement activities are rarely reported, but noted that well-structured processes range from tens of thousands of dollars to $1 million or more.(107) • While not explicitly providing information about costs, an older medium-quality

	review noted that, in general, effective patient involvement requires both personnel and financial commitments.(97)
Designing an evaluation plan	*Benefits* • A high-quality review found that quality-improvement strategies focused on improving coordination of care reduced hospital admissions among patients with chronic conditions (except for those with mental illness), and reduced emergency department visits among older patients.(85) • A medium-quality but older review found a positive effect for collaborative quality-improvement interventions on processes of care, patient care and organizational performance.(108) • An older low-quality review found that patient- or clinician-driven improvement was more effective than approaches driven by managers or policymakers (although it is hard to imagine policymakers not being involved in the design and implementation of an evaluation plan for a primary care 'home' model).(109) • The same review also found that the most effective quality-improvement strategies included clinician-directed audit and feedback, decision support systems and the use of small-group discussions in continuing medical education. *Harms* • None identified. *Costs* • None identified.

Element 3 – Support the full implementation of a primary care 'home' approach to reach all Ontarians

The third element aims to take what is learned from the evaluation of the model, make adjustments and develop an approach that will allow it to be customized according to local contexts to support system-wide implementation, which could include more citizen and stakeholder engagement of the type described in element 2, as well as using strategies to support change in organizations and systems.

We identified an overview of reviews,(110) three medium-quality (111-113) and three low-quality systematic reviews (114-116) that were relevant to element 3 (and in particular the focus on strategies to support change and system-wide implementation). In addition to these reviews, we identified a framework (the RE-AIM framework – see Table 7 below) (117) and a tool that could operationalize considerations from the framework (the Nose to Tail Tool).(118) Both are designed to support heath system decision-makers during the development, implementation and scale up of health system innovations. A summary of the key findings from the synthesized research evidence is provided in Table 8 and further described below. For those who want more detail about the findings contained in Table 8 (or obtain citations for the reviews), Appendix 3a provides a full description of the findings from the reviews and Appendix 3b provides detailed information about each review.

These approaches to support implementation, which are described below, could be further supported through system-level interventions such as funding mechanisms and different models of care. As one example of funding mechanisms, financial incentives could be used to support implementation. However, reviews of the evidence for the use of financial incentives for health professionals,(119-123) health organizations (124) and for both health professionals and health organizations,(125-127) that were included in a recent evidence brief,(128) found that evidence:

- is either insufficient,(121;123;126;127) modest and of variable effects,(120;122) or based on perceived outcomes (e.g., organizational leaders);(124) and/or
- points to incentives being more effective for changing some behaviours in the short run (e.g., for simple, distinct and well-defined behaviours such as providing priority services to specific populations)(120;126) or for specific types of conditions (e.g., for chronic rather than acute care),(125) but not for other more complex behaviours (e.g., improving adherence to clinical guidelines)(120) or over the long term (e.g., retention of human resources).(119)

For different models of care that could support implementation, accountable care organizations (ACOs), which the patient-centred medical home has as its base component, have been developed in the United States as a way to provide coordinated high-quality care and lower costs by replacing traditional fee-for-service payment models with payment for performance models that reward physicians, other healthcare providers, and hospitals for improved patient health outcomes and meeting budgetary targets.(129) A recent rapid synthesis of the impact of ACOs on patient experience, health outcomes and costs found studies indicating that the implementation of an ACO model:

- improved or maintained the patient experience as measured through quality indicators for established treatment goals;
- had mixed results in terms of population health, with some studies showing improved care (on intended measures) and reduced mortality, while others did not; and
- achieved cost savings in most instances (though not always statistically significant cost savings) and especially among complex patients, with savings usually achieved in the form of reduced spending on outpatient services (e.g., diagnostic tests).(130)

Findings from systematic reviews

The overview of reviews (110) and two of the medium-quality reviews (111;112) focused on the implementation of innovations in health systems, with a particular focus on the factors that affect their adoption, diffusion and sustainability. The overview of reviews was older, and incorporated insights from one of the older medium-quality reviews.(111) Both syntheses suggested a number of factors are important influences on the success of implementing new healthcare innovations, including:

1) factors relating to the nature of the innovation itself (e.g. relative advantage, complexity, ability to evaluate in trials and maturity);
2) characteristics of the adopting individual (e.g., cognitive capacities);
3) characteristics of the adopting organization (e.g., size and structure); and
4) features of the broader environment and context.(110;111)

Diffusion of innovations across a health system after adoption were also discussed in both syntheses, and were reported to be facilitated by strong social networks, homogeneity in the characteristics of potential adopters (e.g. similar socio-economic, educational, professional and cultural backgrounds), support from opinion leaders and champions, support from individuals who 'span boundaries,' and the existence of formal dissemination programs.(110;111) The overview also found that, while there have been a number of strategies and tools developed to enhance innovation in health systems, there is little evidence about the impact of these approaches.(110) The authors suggested that published evidence, decision and dissemination support tools, networks, leadership development and evaluation should also be considered as potentially promising strategies.(110)

The other medium-quality review was more recent and assessed approaches for measuring the factors that influence the success of innovation adoption at the level of patients, providers and organizations, as well as those factors related to the nature of the innovation itself.(112) The review indicated that implementation outcomes are a function of multiple types of broad factors, including structural (e.g., socio-cultural, economic policy and political context), organizational (e.g., leadership effectiveness, organizational culture and receptivity to innovation), provider (e.g., characteristics of individual providers who will be affected by an innovation), and innovation-level factors (e.g., characteristics of an innovation). In addition, the review found that organization-, provider- and innovation-level constructs have the greatest number of measures available for use, with far fewer available for structural and patient-level constructs.

One older medium-quality review (113), one recent low-quality review (114) and one older low-quality review (115) focused on evaluating various management strategies that have been borrowed from other industries and used to support change in organizations and health systems. Each of these included the Lean model, which is the approach Group Health used to support the spread of its patient-centred medical home model across 26 different sites. The older medium-quality review evaluated the effectiveness of quality-improvement initiatives borrowed from the manufacturing industry in the field of surgical healthcare, and found that initiatives such as Lean and Six Sigma could improve various dimensions of surgical care.(113) The recent low-quality review focused on the Lean management model, and the results suggested that while there were benefits, it was still unclear what the specific benefits were, and which challenges were likely to arise when implementing Lean in healthcare settings.(114) The older low-quality review evaluated a number of management strategies – including Six Sigma, Lean, and Studers Hardwiring for Excellence – and concluded that these approaches were successful for improving healthcare processes and outcomes across a wide range of settings.(115)

Another older low-quality review was identified, and found that there are at least five major factors associated with successful large-scale system transformation:

1) top-down engaged leadership that is passionately committed to change, as well as distributed and capable leadership that is effective at engaging personnel at all levels of the system in change;
2) a commitment to measurement across the complement of intended and unintended consequences and reporting on progress toward short- and long-term goals;
3) awareness and consideration of historical context and resource constraints to help avoid unnecessary pitfalls while ensuring buy-in and support of necessary stakeholders;
4) significant physician engagement; and
5) engagement of patients and families if one of the goals is patient-centredness.(116)

Supporting frameworks

The RE-AIM framework focuses on how to support health system decision-makers during the implementation and scale up of health system innovations. The goal of this framework "is to encourage program planners, evaluators, readers of journal articles, funders, and policy-makers to pay more attention to essential program elements, including external validity, that can improve the sustainable adoption and implementation of effective, generalizable, evidence-based interventions."(118) In general, RE-AIM provides a starting point for systematically assessing the impact of programs and policies by facilitating the assessment of their reach, effectiveness, adoption, implementation and maintenance. Using information extracted from the RE-AIM framework, we provide in Table 7 the broad guidelines and questions to address when using the framework to assess the impact of interventions.(131) Collectively, these components can be used to assess impact at both the individual (i.e., end-user) and organizational (i.e., delivery agent) level (132) as part of a monitoring and evaluation plan to ensure that financial incentives and complementary policy instruments achieve health-system goals.

Table 7: RE-AIM elements and questions to ask (*reproduced with permission from Gaglio and Glasgow 2012) (131)

RE-AIM element	Questions to ask
Reach • Per cent and representativeness of participants	• Can the program attract a large and representative per cent of the target population? • Can the program reach those most in need and most often left out?
Effectiveness • Impact on key outcomes, quality of life, unanticipated outcomes and sub-groups	• Does the program produce robust effects across sub-populations? • Does the program produce minimal negative side effects and increase quality of life or broader outcomes?
Adoption • Per cent and representativeness of settings and staff that participate	• Is the program feasible for the majority of real-world settings in terms of costs, expertise, resources, etc.? • Can it be adopted by low-resource settings and typical staff serving high-risk populations?
Implementation • Consistency and cost of delivering the program and any adaptation made	• Can the program be consistently implemented across program elements, different staff and over time? • Are the costs (e.g., personnel, upfront, marginal, scale up and equipment) reasonable and proportionate to effectiveness?
Maintenance • Long-term effects at individual and setting levels	• Does the program include principles to enhance long-term improvements (e.g., follow-up contact, community resources, peer support and ongoing feedback)? • Can the settings sustain the program over time without added resources and leadership?

Insights about how to operationalize many of the considerations from this framework can also be drawn from the Nose to Tail Tool (NTT), which is currently under development and aims to address the fact that many health innovations fail to be implemented at full scale across all relevant jurisdictions.(117) Building on a scoping review that included 68 articles describing processes to scale up innovations, the NTT identifies 16 stages that are important for supporting a systematic approach to scaling up and institutionalizing innovations in health systems:

1) identifying the problem;
2) developing the innovation;
3) designing the pilot test;
4) pilot testing;
5) evaluating the pilot test;
6) deciding to implement;

7) planning the implementation;
8) implementation;
9) evaluating the implementation;
10) testing for spreadability;
11) deciding to scale up;
12) planning the scale up;
13) scaling up;
14) evaluating the scale up;
15) monitoring the scale up; and
16) institutionalizing.

In developing the NTT, the authors also identified a number of contingency factors that warrant consideration within each of the 16 stages, including those that relate to collaborators and partners involved in the implementation and scale up of innovations (i.e., target audiences which include innovators, decision-makers and end users), and those that relate to the health-system context (e.g. physical and social environment, health-system characteristics and political-system characteristics).(117)

A comparison was also conducted to determine the equivalence of these 16 stages to seven commonly used implementation frameworks (PARIHS, Consolidated Framework for Implementation Research, Glasgow's five key phases in moving research to practice/policy, Quality Implementation Framework, Framework for Success in Scaling Up, AIDED and the Conceptual Model of Evidence-Based Practice Implementation) and found that:

- none of the frameworks described more than seven of the above stages;
- only one of the frameworks (Conceptual Model of Evidence-Based Practice Implementation)(133) considered all of the contextual factors in the NTT (social and physical environment, health system, and political-system characteristics); and
- only one of the frameworks (Quality Implementation Framework)(134) targeted all three stakeholders considered in the NTT (innovators, decision-makers and end users).

Table 8: Key findings from systematic reviews relevant to Element 3 – Support the implementation of an approach to primary care 'home' to reach all Ontarians

Sub-element	Key findings from systematic reviews
Using strategies to support change in organizations and health systems	*Benefits* • An older overview of reviews and older low-quality systematic review found that innovations in healthcare are facilitated by factors related to the nature of the innovation (e.g., its relative advantage, complexity, ability to evaluate in trials and maturity), characteristics of the adopters and the context in which they are implemented.(110;111) • An older medium-quality review found that quality-improvement initiatives borrowed from other industries can improve surgical care.(113) • A recent low-quality review found general benefits associated with introducing Lean management in healthcare, but couldn't determine specific benefits,(114) and an older low-quality review also found benefits associated with Lean management as well as a number of other organizational transformation strategies.(115) • Another older low-quality review found that large system transformation in health systems requires: 1) both top-down and distributed leadership; 2) measurement and reporting of progress; 3) consideration of historical context; 4) physician engagement in the change process; and 5) engagement of patients and families.(116) *Harms* • None identified. *Costs* • None identified.

Additional equity-related observations about the three elements

Several equity-related observations can be made in relation to the three elements of a comprehensive approach for Ontarians who are not currently attached to a team-based model in Ontario (particularly those who are the sickest and have the highest needs, such as people living with multiple chronic health conditions). In considering element 1, it will be important to ensure components of a primary care 'home' model are supportive of providing access to those who most need it. In addition to the components outlined in element 1, this likely also means providing remuneration that supports physicians and other healthcare professionals to spend the time needed with the sickest patients, and to ensure the care they need is coordinated across other providers, teams and settings. For element 2, it will be important to ensure citizen- and stakeholder-engagement processes are inclusive of a broad range of perspectives to ensure the values and preferences of those who most need access to a primary care 'home' model are identified and incorporated as part of adjustments made to the model. In addition, as part of broader efforts to enhance infrastructure to support the collection, analysis and dissemination of data, careful attention will need to be paid to selecting measures for the evaluation plan that allow for accurate and meaningful tracking of whether and how the model performs for different populations and in relation to the key goals of offering accessible, comprehensive, coordinated and continuing care. Lastly, moving forward with element 3 will likely require flexibility in order to adapt the model to local contexts, particularly for those areas that serve patients with more complexity.

IMPLEMENTATION CONSIDERATIONS

A number of barriers might hinder implementation of the three elements of a potentially comprehensive approach to building a primary care 'home' for every Ontarian, which needs to be factored into any decision about whether and how to pursue any given element (Table 9). 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 the specifics of these approach elements), the most important barriers might include: 1) hesitancy among policymakers to invest in new ways of doing things during a time of 'no new money;' 2) resistance from citizens, providers and organizations to new ways of providing and organizing primary care; and 3) difficulty balancing patient expectations against what is feasible given existing resources. In addition, a recent (non-systematic) review of barriers and facilitators to primary-care reform across Canadian jurisdictions found that key barriers include insufficient financial investment in the reforms, resistance from professional associations, excessively prescriptive approaches lacking adaptability, and an overly centralized governance model.(135) The facilitators to primary-care reform identified in the review include: strong financial commitment using various allocation and payment approaches; the cooperation of professional associations through the process of reform; an incremental emergent change philosophy based on a strong decentralization of decision-making; and adaptation to local circumstances.(135)

Table 9: Potential barriers to implementing the options

Levels	Element 1 – Harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians	Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability	Element 3 – Support the implementation of a primary care 'home' approach to reach all Ontarians
Patient/individual	Some citizens may not like the idea of no longer receiving routine care from a primary-care physician (and instead from a nurse practitioner) or not feel comfortable using email to communicate with their healthcare provider (although there is no requirement to do so, and many may also be happy to connect with their provider in this way). Expectations from citizens for timely access may be difficult to balance against what is feasible given existing resources. Citizens may not like the idea of being more involved in and responsible for their care.	Some patients and citizens may not feel sufficiently informed to properly contribute to citizen-engagement processes.	Some patients and citizens may not feel sufficiently informed to properly contribute to citizen-engagement processes.
Care provider	Some professionals may: • resist the idea of working in a model that ensures same- or next-day access to care, and may initially find it difficult to change how they schedule appointments; • oppose any efforts to increase sharing of resources across teams and/or reallocate funding within the province;	Some professionals, particularly those working in solo practices, may not have the infrastructure or technical assistance needed to participate in rapid-cycle evaluations.	Some professionals and their staff may not have the key success factors in place to support province-wide implementation (as outlined in the paragraph following the table).

	• initially feel uncomfortable providing more responsibility to the patient for their care; • find it difficult to ensure outreach to all patients discharged from hospital or emergency departments without electronic health records that link care across providers and settings; • view this as another different approach that requires investment but doesn't lead to real change in the system; and • resist requisite changes to the way they practice in terms of structures, processes, team-based care and measurement of outcomes for continuous quality improvement. Remuneration for providers may not support the implementation of all the features of this element (e.g., fee-for-service remuneration does not support team-based care or compensate for email consultations with patients).		
Organization	Organizations may initially find it difficult to change how they schedule appointments, and be hesitant to invest in hiring care coordinators without knowing if their costs will be recovered. Organizations could view this as another different approach that requires investment but doesn't lead to real change in the system.	Some groups and organizations may not have the infrastructure to participate in rapid-cycle evaluations, or may not be interested in participating in stakeholder-engagement processes.	Some groups and staff may not have the key success factors in place to support province-wide implementation (as outlined in the paragraph following the table), including practice coaching or facilitation.
System	Policymakers (as well as care providers and organizations) will face significant challenges for implementing clinical information systems that can be integrated for use across all care settings and providers in the province. Policymakers could view this as another different approach that requires investment but doesn't lead to real change in the system.	Policymakers lack access to transparent performance measures of patient-centred outcomes, which limits their ability to monitor progress of efforts to put the patient at the centre of care.	Policymakers may be hesitant to scale up a new model across the province given the perception that it may require a large new investment in a time of 'no new money' for the health system.

A recent low-quality review that assessed the sustainability of new programs and interventions found that partial sustainability was more common than the continuation of the entire program or intervention (even when full implementation was initially achieved).(136) The same review indicated that fidelity ratings used to assess sustainability at the care-provider level found that less than half sustained the program or intervention at high levels of fidelity, and proposed that fidelity-maintenance strategies are needed as part of implementation efforts. Such strategies could draw on the findings of a recent, medium-quality systematic review that identified the key success factors for implementation to be: "1) the organization and staff have planned for the initiative; 2) there are enough people with necessary and synergistic skills to implement the initiative; 3) there are capabilities and a receptiveness for change; 4) the chosen implementation [approach] meets needs and is the best fit for the organization and stakeholders; 5) the necessary human and financial resources are available for implementation; 6) there is support and momentum throughout the implementation process; and 7) processes to support mid-to-long-term acceptance are established during preparation and anchored throughout the implementation process."(137) Much of this could be facilitated through the use of practice coaching and facilitation, which can be used to implement transformations in primary care.(138;139)

On the other hand, a number of potential windows of opportunity could be capitalized upon (Table 10), which also need to be factored into any decision about whether and how to pursue one or more of the approach elements. These potential windows of opportunity include the potential to: 1) harness the increased attention paid to reforming primary care in Ontario; 2) draw on momentum created by high-profile proposals to reform primary care and what's working well in different communities; and 3) use primary-care reform to meet larger health-system goals.

Table 10: Potential windows of opportunity for implementing the elements

Type	Element 1 – Harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians	Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability	Element 3 – Support the implementation of a primary care 'home' approach to reach all Ontarians
General	Recently there has been much attention on reforming primary care in Ontario, including the highly publicized proposal from the province to strengthen patient-centred care.(1) This attention could help support action towards deploying resources in the province in a way that provides access to a primary care 'home' for all Ontarians. Difficult economic times such as those presently faced in the province sometimes force the development of innovative policy approaches to be able to make tough decisions.		
Element-specific	Recent high-profile proposals to reform primary care in Ontario, including the highly publicized proposal from the province to strengthen patient-centred care, emphasize many of the activities included in this element.(1)	The public is increasingly wanting to have a voice in processes to inform decisions that affect them, and there are increasingly better mechanisms in place to do this. Ontario already has capacity to conduct regular quality-improvement planning in interprofessional primary-care teams, which could be harnessed for rapid-cycle evaluations for a new primary care 'home' model.	Implementing a primary care 'home' model across the province that incorporates components similar to those outlined in element 1 could help the province address each of the four goals in its action plan for the health system, which are: 1) improving access; 2) connecting services; 3) support people and patients; and 4) protect the universal health system.(2)

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APPENDICES

The following tables provide detailed information about the systematic reviews identified for each option. Each row in a table corresponds to a particular systematic review and the reviews are organized by sub-element (first column). The focus of the review is described in the second column. Key findings from the review that relate to the option 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 signals that readers of the review can have a high level of confidence in its findings. A low score, 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.

The last three columns convey information about the utility of the review in terms of local applicability, applicability concerning prioritized groups, and issue applicability. The third-from-last column notes the proportion of studies that were conducted in Canada, while the second-from-last column shows the proportion of studies included in the review that deal explicitly with one of the prioritized groups. The last column indicates the review's issue applicability in terms of the proportion of studies focused on primary care. Similarly, for each economic evaluation and costing study, the last three columns note whether the country focus is Canada, if it deals explicitly with one of the prioritized groups, and if it focuses on primary care.

All of the information provided in the appendix tables was taken into account by the evidence brief's authors in compiling Tables 1-3 in the main text of the brief.

Appendix 1a: Summary of key findings from systematic reviews relevant to Element 1 – Harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians

Category of finding	Summary of key findings
Benefits	• **Ensure all Ontarians receive the care they need, when they need it** o High- and medium-quality reviews found that: ▪ advance access scheduling which shifts away from pre-arranged schedules to an open schedule where patients are offered an appointment on the day they call or at the time of their choosing (usually within 24 hours), has been found to reduce wait times and no-show rates, but effects on patient satisfaction were mixed;(59) ▪ models of care that use a collaborative team-based approach for people with mental health conditions improve mental and physical quality of life and social role functions when delivered for different disorders and in different settings;(60) and ▪ telemedicine, as compared to usual face-to-face care or just consultation over the phone, achieves similar health outcomes, and can improve the management of some chronic condition such as diabetes, but evidence about its costs and acceptability to patients and providers is uncertain.(61) • **Put the patient at the centre of care** o Shared decision-making ▪ One high-quality review found clinically significant effects for shared decision-making interventions in three of 21 included studies.(71) ▪ One high-quality review found moderate positive effects of shared decision-making interventions on knowledge, participation, decisional conflict and self-efficacy of disadvantaged populations, and indicated that interventions appeared to benefit disadvantaged groups more than groups with higher literacy, education and socio-economic status.(72) ▪ One medium-quality review found evidence that supports several tools targeted toward shared decision-making in immediate clinical choices, with the two advance care planning tools (a video advance care planning tool to assist in discussions of treatment preference with patients with advanced dementia, and an advanced directive documentation guide designed for patients with low health literacy and available for free on the internet) supported by the strongest evidence.(73) ▪ One medium-quality review indicated that patients reported improved health and physical functioning, improved knowledge about the risks and benefits of different treatment options, and increased satisfaction with the decision-making process.(74) o Decision aids - Three high-quality (76;78;79) and four medium-quality (75;77;80;81) found evidence that decision aids: ▪ increase patients' knowledge of screening and treatment options;(75-78) ▪ encourage patient involvement;(78) ▪ support realistic perception of outcomes and risk;(76;79-81) ▪ reduce decision-related conflict;(78) ▪ increase patient-practitioner communication;(78) and ▪ support professionals to provide information and counselling about the available choices.(75) • A recent high-quality review indicated that approaches to self-management: o can include interventions "designed to develop the abilities of patients to undertake management of health conditions through education, training and support to develop patient knowledge, skills or psychological and social resources;' o can be delivered individually or in groups, face-to-face or remotely and by professionals or peers; and o have been found to reduce health service utilization without negatively affecting patient health.(69) • **Ensure the full range of care is seamlessly linked across providers, teams and settings** o A recent high-quality review found that approaches used to improve coordination of care significantly reduce the number of people with chronic conditions (except for those with mental illness) being admitted to hospital, as well as emergency department visits for older adults.(85) o A recent medium-quality review found that system navigators are a relatively new approach to link people with complex conditions to the care they need, so there is a lack of evidence to determine if they are helpful for supporting transitions between different settings.(86) o A recent high-quality review found that creating tailored discharge plans for patients reduces how long they stay in hospital and the likelihood that they will be readmitted.(87) o Two recent medium-quality reviews found that chronic care models that incorporate clinical information systems (i.e., systems such as electronic health records that organize patient and population data to facilitate more efficient care) as one of several components, improve the functioning of healthcare practices, as well as health outcomes of patients.(88;89)

Potential harms	• **Ensure all Ontarians receive the care they need, when they need it** o Telemedicine technology was associated with technical difficulties in the form of failed data transmission and/or video-conferencing, including monitoring systems which did not alert care providers or transmit their responses.(61) • **Put the patient at the centre of care** o A review about interventions on personalized risk communication for informed decision-making about screening tests (e.g., mammography, colorectal cancer screening, etc.) raised concerns that such interventions could be harmful for high-risk patients if they are not introduced and explained carefully.(76) • **Ensure the full range of care is seamlessly linked across providers, teams and settings** o Advance access scheduling has not been associated with any specific harms, but patients with chronic conditions may be more likely to be lost to follow-up (e.g., not calling back to book subsequent appointments) in an advanced access system, with rates as high as 50% in one speciality setting and one-fifth of geriatric patients in another.(59)
Costs and/or cost-effectiveness in relation to the status quo	• **Ensure all Ontarians receive the care they need, when they need it** o An older medium-quality review of patient-centred medical home models found that only one of four high-quality studies found any evidence of savings, and it was limited to the "high-risk" individuals included in the intervention. However, the savings in the "high-risk" group was enough to offset the spending for other groups and achieve a cost-neutral year.(58) o The same review found that five of the rigorous interventions reduced hospitalizations by 40% in year two and 44% in year three, with one of the three evaluations finding reduced emergency room department visits by 24% among target Medicare patients and 35% among "high-risk" Medicare patients.(58) o An evaluation of a patient-centred medical home (PCMH) serving seniors found they had significantly greater quality outcomes without significant cost differences between the PCMH and the usual care (total cost difference at 12 months of +$2.79 for the PCMH and -$5.92 for the PCMH at 21 months).(62) o eTools (electronic tools for health information exchange and health technologies) for people with diabetes showed cost per patient in the usual care group of $30,226 and $29,889 in the intervention group with an incremental cost per patient of -$337 in the intervention group and 0.006 improvement in quality-adjusted life years (QALYs).(63) o An economic evaluation found that: ▪ specialized nursing practice (patients treated by a nurse practitioner) for people with diabetes showed costs per patient of $30,142 as compared to $30,226 in the usual care group of patients treated by a GP (an incremental decrease of -$84 and increase in QALYs per patient of 0.003); ▪ enhanced specialized nursing practice (patients treated by a nurse practitioner plus a GP) for people with diabetes showed costs per patients of $30,210 as compared to $30,226 in the usual care group of patients treated by a GP (an incremental decrease of -$15 and increase in QALYs per patient of 0.040); and ▪ enhanced specialized nursing practice (patients treated by a nurse practitioner plus a GP) for people with coronary artery disease showed costs per patient of $101,855 as compared to $111,611 in the usual care group of patients treated by a GP (an incremental decrease of -$9,757 and increase in QALYs per patient of 0.018).(63) o A comparison of non-pharmacological face-to-face treatment program to a telephone-based treatment program for patients with generalized osteoarthritis found the mean total societal costs per patient was estimated at €10,324 in the face-to-face treatment program and €11,023 for the telephone-based treatment program, producing a difference in total societal costs of €708 (95% confidence interval: -€5058, €3642) between both programs in favour of the face-to-face treatment program.(64) o A program serving adults living in a rural community receiving primary healthcare and emergency services from a team that included an on-site nurse practitioner (NP) and paramedics, as well as an off-site family physician, decreased total health and social utilization costs from year 1 (median $3,085.75) to year 3 (median $1,918.54), prescription medication from year 1 (median $67.05) to year 3 ($24.17) and travel costs in year 1 (mean $263.88) to year 3 (mean $30.73).(65) o A comparison of general practitioner and nurse-led telephone triage compared to usual care found that the absolute differences in costs between the approaches were modest with -£5.75 for GPs and -£2.58 for nurses per patient compared to usual care.(66) o A comparison of on-site versus off-site collaborative care for depression found that the telephone group was both more effective and more cost-effective compared with in-person care with an incremental cost-effectiveness for the telephone group of $10.78 per depression-free day.(67) • **Put the patient at the centre of care** o A recent high-quality review found unclear evidence about whether limited cost savings resulting from personalized care planning justifies the expense of the model.(68) o An older medium-quality review found that both paper and computer-based decision aid tools to support women's decision-making in pregnancy and birth are cost-effective.(75) o A web-based decision aid for parents deciding about MMR vaccination found those using the aid had the highest vaccine uptake with NHS, costs for the aid were £35.06 per patient compared to a leaflet, £42.23, and usual care at £42.23, and societal costs for the aid were £42.23, £50.99 for the leaflet, and £48.85 per patient for

	usual care.(83) o Mobile phone supported self-monitoring of asthma resulted in similar health outcomes and health costs between the intervention and paper-based monitoring group, but the group receiving support through a mobile phone cost more overall because of the need to use an electronic monitoring service (£69 per person), resulting in total higher costs (£315 versus £245).(84) • **Ensure the full range of care is seamlessly linked across providers, teams and settings** o A recent medium-quality review of navigation programs to support chronically ill older adults trough healthcare transitions, found that five of nine included studies reported positive economic outcomes, including: one study reporting an average savings of $1,000 USD per participant in the intervention group based on the cost difference between emergency room and outpatient visits; and another study reporting the total cost (hospital, intervention, community services over six months) as being lower in the intervention group (mean difference $2,545 USD; 95% confidence interval, $11–$3,078).(86) o A recent medium-quality review of 33 comprehensive care programs for patients with multiple chronic conditions found moderate evidence for a beneficial effect on reducing incremental direct healthcare costs, such as costs of primary-care visits, emergency-room visits, and hospitalization. Incremental savings for the intervention groups ranged from -$204 per patient per year in one study to -$12,260 per patient per year in another.(89) o Discharge planning (pre-discharge and post-discharge) for people with congestive heart failure was found to cost $100,353 as compared to $101,080 (an incremental decrease of -$728 and a 0.072 increase in QALYs per patient).(63) o In-home care for people with congestive heart failure was found to cost $90,415 per patient as compared to $101,080 per patient in the usual care group (an incremental decrease of $10,665 and increase in QALYs per patient of 0.111).(63) o An evaluation of 15 care coordination programs serving fee-for-service Medicare patients (primarily with congestive heart failure, coronary artery disease, and/or diabetes) found that none of the groups generated net savings, and the authors identify the need for strong transitional care components and suggest that programs with substantial in-person contact targeted at patients with moderate to severe conditions can be cost-neutral.(90) o A nursing health promotion and preventive care intervention as compared to usual homecare within the community resulted in no statistically significant differences in total annual per person direct expenditures.(140)
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 – reviews were identified about each sub-element • Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review o Not applicable – no 'empty' reviews were identified • No clear message from studies included in a systematic review o Not applicable
Key elements of the element if it was tried elsewhere	• **Put the patient at the centre of care** o Shared decision-making ▪ One high- and one medium-quality review found that interventions targeting both patients and providers had a positive effect compared to usual care and compared to interventions targeting patients alone.(71;141) ▪ Based on the limited evidence available as well as expert opinion, a low-quality review recommends five components for efforts to frame and communicate clinical evidence: understanding the patient's (and family members') experience and expectations; building partnerships; providing evidence, including a balanced discussion of uncertainties; presenting recommendations informed by clinical judgment and patient preferences; and checking for understanding and agreement.(142)
Stakeholders' views and experience	• **Ensure all Ontarians receive the care they need, when they need it** o A medium-quality review found that patients and clinicians report improved healthcare access, greater satisfaction, and enhanced quality of healthcare in the family health team model;(30) • **Put the patient at the centre of care** o Shared decision-making ▪ One medium-quality review found that providers reported barriers to implementing shared decision-making in clinical practice such as time constraints, lack of applicability due to patient characteristics, and lack of applicability based on the clinical situation.(143) ▪ The same review found that facilitators reported by providers for implementing shared decision-making in clinical practice were healthcare provider motivation, their perception that putting shared decision-making into practice would lead to improved clinical processes, and their perception that putting shared decision-making into practice would lead to improved patient outcomes.(143)

Appendix 1b: Systematic reviews relevant to Element 1 - Harness existing resources to develop an approach for providing a primary care 'home' to all Ontarians

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 focused on primary care
Medical home model	Approaches for implementation of the patient's medical home model and its effects on patient and staff experiences, process of care, and clinical and economic outcomes (55)	Across 19 studies of patient-centred medical home interventions there was a small positive effect on patient experiences, small to moderate positive effects on the delivery of preventive care services (moderate strength of evidence), and a small to moderate degree (low strength of evidence) for improvement to staff experience. Among older adults there was a reduction in emergency department visits, but not in hospital admissions (low strength of evidence). There was no evidence for overall cost savings.	2012	7/11 (AMSTAR rating from McMaster Health Forum)	1/19	10/19	4/19
	Current evidence about the patient-centred medical home model (53)	The review found moderately strong evidence that the patient-centred medical home model improves patient experiences and preventive care service, and some evidence of improvements in staff experience, but it did not have an effect on total cost.	2011	9/10 (AMSTAR rating from McMaster Health Forum)	1/27	13/27	1/27
	Review of recent research about the patient-centred medical home (54)	The review identified inconsistencies in how the patient-centred medical home model is defined and how related variables are operationalized. This created challenges for comparing across the included studies and produced mixed results. The most common outcome measured across studies was emergency department visits which proved significant in seven of 11 studies.	2010	7/10 (AMSTAR rating from McMaster Health Forum)	1/21	12/21	13/21
	Review of early evaluations of medical home models (56)	In a review of 12 interventions, six provided rigorous evidence indicating some favorable effects on all three triple aim outcomes and healthcare professional experience, but cost effects were unfavourable, and many of the results were inconclusive.	2010	5/10 (AMSTAR rating from McMaster Health Forum)	0/12	12/12	6/12

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 focused on primary care
Ensure all Ontarians receive the care they need, when they need it	Patient and physician and/or practice outcomes resulting from implementation of advanced access scheduling in the primary care setting (59)	Advance access scheduling which shifts away from pre-arranged schedules to an open schedule where patients are offered an appointment on the day they call or at the time of their choosing (usually within 24 hours), has been found to reduce wait times and no-show rates, but effects on patient satisfaction were mixed.	2010	6/9 (AMSTAR rating from McMaster Health Forum)	0/28	0/28	28/28
	Interprofessional collaboration in Ontario's Family Health Teams (30)	Patients and clinicians report improved healthcare access, greater satisfaction, and enhanced quality of healthcare in the family health team model.	2012	4/9 (AMSTAR rating from McMaster Health Forum)	11/11	11/11	11/11
	Effectiveness of collaborative chronic care models for mental health conditions across primary, specialty, and behavioural healthcare settings (60)	Models of care that use a collaborative team-based approach for people with mental health conditions improve mental and physical quality of life and social role functions when delivered for different disorders and in different settings.	2011	6/11 (AMSTAR rating from McMaster Health Forum)	0/74	74/74	74/74
	Effects of interactive telemedicine on professional practice and healthcare outcomes (61)	Telemedicine, as compared to usual face-to-face care or just consultation over the phone, achieves similar health outcomes, and can improve the management of some chronic conditions such as diabetes, but evidence about its costs and acceptability to patients and providers is uncertain.	2013	7/11 (AMSTAR rating from McMaster Health Forum)	Not available	Not available	Not available
Put the patient at the centre of care	Personalised care planning for adults with chronic or long-term health conditions (68)	Personalized care planning has been found to improve some indicators of physical and psychological health status, as well as patients' ability to manage their condition.	2013	10/11 (AMSTAR rating from McMaster Health Forum)	0/19	19/19	13/19
	Self-management support interventions to reduce healthcare utilization without compromising outcomes (69)	Approaches to self-management: • can include interventions "designed to develop the abilities of patients to undertake management of health conditions through education, training and support to develop patient knowledge,	2012	8/11 (AMSTAR rating from McMaster Health Forum)	7/166	166/166	0/166

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 focused on primary care
		skills or psychological and social resources;" • can be delivered individually or in groups, face-to-face or remotely and by professionals or peers; and • have been found to reduce health service utilization without negatively affecting patient health.					
	Effects of improved patient participation in primary care on health-related outcomes (70)	This systematic review evaluated the effects of interventions aiming to improve patient participation in primary-care consultations on patient outcomes. Eligible interventions included educational meetings, audit and feedback, reminders, patient-mediated interventions, and distribution of educational material. Seven trials were included, but all studies suffered from substantial bias. The results are non-conclusive.	2011	6/10 (AMSTAR rating from McMaster Health Forum)	1/7	6/7	7/7
	Patients' perceptions of sharing in decisions: A systematic review of interventions to enhance shared decision-making in routine clinical practice (71)	This systematic review evaluated the effectiveness of interventions to improve health professionals' adoption of shared decision-making in routine clinical practice, as seen by patients. Only three of the 21 included studies found clinically significant effects for shared decision-making interventions that favoured the intervention examined. These three studies were the only ones that involved multifaceted interventions including both health professional education and a patient-mediated intervention (i.e. patient decision aid). This finding suggests that, from the perspective of patients, interventions that target both the health professional responsible for sharing a decision with the patient, and also the patient him or herself, are promising options to enhance shared decision-making in routine clinical practice.	2009	7/11 (AMSTAR rating from McMaster Health Forum)	4/21	18/21	21/21

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 focused on primary care
	Tools to promote shared decision-making in serious illness (73)	Tools identified in this review address advance care planning, palliative care and goals of care communication, feeding options in dementia, lung transplant in cystic fibrosis, and truth telling in terminal cancer. Tools to promote shared decision-making can be used to inform future decisions through advance care planning, or to support immediate treatment decisions. The two advance care planning tools supported by the strongest evidence are a video advance care planning tool to assist in discussions of treatment preference with patients with advanced dementia, and an advanced directive documentation guide designed for patients with low health literacy and available for free on the internet. Both tools had effects on clinical decisions. The evidence identified in this review supports several tools geared toward shared decision-making in immediate clinical choices. The majority of these tools were shown to improve knowledge, and select tools changed actual treatment decisions.	2014	6/10 (AMSTAR rating from McMaster Health Forum)	1/38	38/38	38/38
	Effects of interventions designed to support shared decision-making on health inequalities (72)	Shared decision-making interventions evaluated by included studies include communication skills workshops or education sessions, coaching sessions targeted at patients or health professionals, computerized decision aids, video-based interventions to improve informed decision-making and shared decision-making, counselling sessions, booklet or DVD decision aids, and paper-based hand-outs promoting informed decision-making. Ten of 21 interventions studied were specifically targeted at disadvantaged groups. These interventions focused on issues such as cultural differences and literacy levels.	2012	10/11 (AMSTAR rating from McMaster Health Forum)	0/19	19/19	2/19

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 focused on primary care
		The shared decision-making interventions studied had no significant effect on disadvantaged patients' adherence levels, anxiety health outcomes, and screening/treatment preferences, intentions or uptake. Pooling of study results found moderate positive effects of shared decision-making interventions on knowledge, participation, decisional conflict and self-efficacy of disadvantaged populations. Seven studies compared the effects of interventions between high and low literacy groups. Results indicated that shared decision-making interventions appeared to benefit disadvantaged groups more than groups with higher literacy, education and socio-economic status. Interventions specifically tailored to the needs of disadvantaged groups appeared to be the most effective.					
	Health professionals' perceptions of the barriers and facilitators to implementing shared decision-making in clinical practice (143)	The majority (89%) of participants in included studies were physicians. The most frequently reported barriers to implementing shared decision-making in clinical practice were time constraints, lack of applicability due to patient characteristics, and lack of applicability based on the clinical situation. The most frequently reported facilitators to implementing shared decision-making in clinical practice were healthcare provider motivation, their perception that putting shared decision-making into practice would lead to improved clinical processes, and their perception that putting shared decision-making into practice would lead to improved patient outcomes.	2006	6/10 (AMSTAR rating from McMaster Health Forum)	6/38	0/38	38/38
	Experience with shared decision-making programs in VA Shared Decision-making® Programs for	Shared Decision-making® Programs (SDPs) are videos designed to educate patients and involve them in the decision-making process.	1997	4/9 (AMSTAR rating from	0/2	0/2	2/2

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 focused on primary care
	prostate care (74)	The evidence on the impacts of SDPs on treatment preferences for prostate care is limited. Patients enrolled in the two included studies demonstrated improved knowledge about prostate cancer after viewing the SDP. In one study, patients reported improved health and physical functioning, improved knowledge about the risks and benefits of different treatment options, and were more satisfied with their decision-making process.		McMaster Health Forum)			
	Interventions for improving the adoption of shared decision-making by healthcare professionals (141)	Studies that used outcome measures reported by observers to evaluate shared decision-making interventions showed that interventions targeting both patients and providers had a positive effect compared to usual care and compared to interventions targeting patients alone. Studies comparing interventions targeting healthcare professionals with usual care reported that shared decision-making interventions had a positive effect. The low quality of evidence identified by this review makes it difficult to evaluate whether shared decision-making interventions are effective. However, the findings of this review suggest that any intervention that targets patients, providers, or both, is more effective than no intervention.	2009	9/10 (AMSTAR rating from McMaster Health Forum)	7/39	0/39	23/39
	Identification of ways to communicate evidence to improve patient understanding, involvement in decisions and outcomes (142)	There is limited evidence available to guide how physicians can most effectively share clinical evidence with patients facing decisions. Based on the limited evidence available as well as expert opinion, the review recommends five components for efforts to frame and communicate clinical evidence: understanding the patient's (and family members') experience and expectations; building a partnership; providing evidence, including a balanced	2003	0/10 (AMSTAR rating from McMaster Health Forum)	Not reported	Not reported	8/8

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 focused on primary care
		discussion of uncertainties; presenting recommendations informed by clinical judgment and patient preferences; and checking for understanding and agreement.					
	Efficacy of different decision aid tools compared to regular care for women facing several options in the specific field of obstetric care (75)	The review found that all decision aid tools, except for Decision Trees, facilitated significant increases in knowledge. The computer-based information tool, the decision analysis tools, individual counselling and group counselling interventions presented significant results in reducing anxiety levels. The Decision Analysis Tools and the Computer-based Information tool were associated with a reduction in levels of decisional conflict. The Decision Analysis Tool was the only tool that presented evidence of an impact on the final choice and final outcome. Decision aid tools can assist health professionals in providing information and counselling about choices during pregnancy, and support women in shared decision-making. The review suggested that the choice of a specific tool should depend on resources available to support their use, as well as the specific decisions being faced by women, their healthcare setting and providers.	2010	7/11 (AMSTAR rating from McMaster Health Forum)	2/10	Not Reported	0/10
	Effectiveness of decision aids for patients' treatment or screening decisions (78)	Decision aids increase patient involvement, and improve knowledge and realistic perception of outcomes. Patients exposed to decision aids with explicit values clarification versus those without explicit values clarification were better	2009	9/11 (AMSTAR rating from www.rxforchange.ca)	Not Reported in detail - description states: Australia; Canada;	Not Reported	?/86 (focus of studies 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 focused on primary care
		informed and achieved decisions more consistent with their values. Decision aids, compared to typical care interventions, resulted in lower decisional conflict related to feeling uncertain about personal values and feeling uninformed, and reduced the number of passive patients in decision-making and those left feeling undecided post-intervention. In the four studies that measured this outcome, decision aids positively affect patient-practitioner communication.			China; Finland; Netherlands; U.K.; U.S.		
	Overview of the impact on risk perception accuracy of genetic counselling (81)	Overall, studies found that an increased proportion of individuals correctly perceived their risk after counselling rather than before, and those who did not had smaller deviations from their objective risk than before counselling. The positive effects were sustained at follow-up one year later. Some studies observed no impact at all, or only observed an impact for low-risk participants.	2007	5/9 (AMSTAR rating from McMaster Health Forum)	Not Reported	Not Reported	0/19
	To evaluate the effects of attribute framing (positive versus negative) and goal framing (gain versus loss) of the same health information, on understanding, perception of effectiveness, persuasiveness, and behaviour of health professionals, policymakers and consumers (79)	Attribute framing in a positive manner caused more positive perceptions of effectiveness than negatively-framed messages, but did not cause a change in persuasiveness of the message. For screening messages, loss messages led to a more positive perception of effectiveness than gain messages.	2007	10/11 (AMSTAR rating from McMaster Health Forum)	Not Reported	Not Reported	0/35
	Effects of different types of personalized risk communication for consumers making decisions about	There was little evidence to suggest that personalized risk communication (written, spoken or visually presented) increases uptake	2006	10/11 (AMSTAR rating from	2/22	Not Reported	5/22

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 focused on primary care
	taking screening tests (76)	of screening tests, or promotes informed decision-making by consumers. In three studies, personalized risk communication interventions lead to a more accurate risk perception, and three other trials reported that interventions lead to increased knowledge. More detailed personalized risk communication (i.e., those which present numerical calculations of risk) may be associated with a smaller increase in uptake of tests.		McMaster Health Forum)			
	Effectiveness of interventions that provide patients with cancer risk and cancer screening information tailored to their personal attributes (80)	Tailored information regarding cancer risk and screening led to increased cancer risk perception and knowledge of breast cancer compared to generic information. There is limited evidence to suggest that a website tailored for risk factors would be effective.	Not Reported	7/11 (AMSTAR rating from McMaster Health Forum)	0/40	Not Reported	0/40
	Effectiveness of cancer-related decision aids (77)	Thirty-four randomized controlled trials (RCTs) of decision aids were identified for use in screening or prevention and treatment of cancer. Decision aids were found to significantly improve knowledge about screening as well as preventive/treatment options as compared to usual practice. General anxiety was not increased in most trials and was significantly reduced in a screening context. Decision-related conflict was reduced, but not when screening and preventive/treatment studies were analyzed separately.	2007	4/11 (AMSTAR rating from McMaster Health Forum)	5/34	0/34	0/34

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 focused on primary care
	Impact of electronic health records on healthcare quality (82)	Electronic health records have been found to improve the quality of healthcare by allowing providers to make more efficient use of time and adhere to guidelines, as well as to reduce medication errors and adverse drug events for patients.	2013	4/11 (AMSTAR rating from McMaster Health Forum)	Not available		
Ensure the full range of care is seamlessly linked across providers, teams and settings	Effectiveness of quality improvement strategies for coordination of care to reduce use of health care services (85)	Approaches used to improve coordination of care significantly reduce the number of people with chronic conditions (except for those with mental illness) being admitted to hospital, as well as emergency department visits for older adults.	2014	10/11 (AMSTAR rating from McMaster Health Forum)	2/50	50/50	50/50
	Navigation roles support chronically ill older adults through healthcare transitions (86)	System navigators are a relatively new approach to link people with complex conditions to the care they need, so there is a lack of evidence to determine if they are helpful for supporting transitions between different settings.	2011	5/10 (AMSTAR rating from McMaster Health Forum)	2/9	9/9	9/9
	Discharge planning from hospital to home (87)	Creating a tailored discharge plan for patients has been found to reduce how long they stay in hospital and the likelihood that they will be readmitted.	2012	9/11 (AMSTAR rating from McMaster Health Forum)	2/11	11/11	11/11
	Effectiveness of chronic care models (88)	This systematic review aimed to synthesize international evidence on the effectiveness of elements of chronic care models for improving healthcare practices and health outcomes within primary healthcare settings. With 77 studies included, only two reported improvements to healthcare practices or health outcomes for people living with chronic disease. There were significant variations between studies regarding what combination of elements were included in the chronic care model. Therefore, the study could not identify any optimal combination of chronic care	2013	6/10 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	77/77

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 focused on primary care**
		model elements that led to health improvements.					
	Effectiveness of comprehensive care programs for patients with multimorbidity, and their impact on patients, informal caregivers and professional caregivers (89)	The review included programs that varied greatly in terms of target patient groups, implementation settings, number of interventions, and the number of chronic care model components. The review found moderate evidence of a beneficial effect of comprehensive care on inpatient healthcare utilization and healthcare costs, health behaviour of patients, perceived quality of care, and satisfaction of patients and caregivers. The review found insufficient evidence of a beneficial effect of comprehensive care on health-related quality of life in terms of mental functioning, medication use, and outpatient healthcare utilization and healthcare costs. The review found no evidence of a beneficial effect of comprehensive care on cognitive functioning, depressive symptoms, functional status, mortality, quality of life in terms of physical functioning, or caregiver burden.	2011	5/9 (AMSTAR rating from Program in Policy Decision-making)	4/42	33/42	42/42

Appendix 2a: Summary of key findings from systematic reviews relevant to Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability

Category of finding	Summary of key findings
Benefits	• **Stakeholder- and citizen-engagement processes** o One recent review outlined a model for deliberative dialogues and identified possible intended effects of deliberative dialogues, including short-term (e.g., strengthened capacity of participants to address the policy issue), medium-term (e.g., strengthened community or organizational capacity) and long-term effects (e.g., strengthened system capacity to make evidence-informed decisions).(101) o An older high-quality review found some evidence that community engagement improves the dissemination of information and processes for developing interventions.(100) o A recent medium-quality review found that the main benefits of stakeholder engagement in developing and conducting systematic reviews include: identifying and prioritizing topics for research; providing pragmatic feedback on the research protocol; aiding in recruitment of research participants; helping the researchers understand the research subject's perspective; ensuring that findings are interpreted with the end user in mind and that final products are readable and accessible; and facilitating wider dissemination and uptake of research findings.(92) o The same review noted that stakeholder engagement in the topic refinement and research development phase of conducting a systematic review was identified as the point where stakeholder engagement yielded the greatest benefit.(92) • **Designing an evaluation plan** o A high-quality review found that quality-improvement strategies focused on improving coordination of care reduced hospital admissions among patients with chronic conditions (except for those with mental illness), and reduced emergency department visits among older patients.(85) o A medium-quality but older review found a positive effect for collaborative quality-improvement interventions on processes of care, patient care and organizational performance as a result of participation in a quality-improvement collaborative.(108) o Another review that was conducted recently but was of low quality found clinician/patient-driven quality-improvement interventions were effective, but that manager/policymaker-driven approaches were less effective.(109) o The same review also found that the most effective quality-improvement strategies included clinician-directed audit and feedback, decision support systems and the use of small-group discussions in continuing medical education.
Potential harms	• **Stakeholder- and citizen-engagement processes** o An older low-quality review about priority setting for health interventions in developing countries noted important limitations in some of the priority-setting processes studies, including: ▪ using a limited number of criteria to inform priority setting when a broader set of policy-relevant information could have been included; and ▪ relying exclusively on one technique (e.g., quantitative techniques such as discrete-choice experiments or qualitative techniques such as deliberative processes) to identify respondent preferences when not all criteria relevant to priority-setting are amenable to use in a single approach.(106) o A recent medium-quality review indicated that the biggest challenges of engaging stakeholders in the development and conduct of systematic reviews include time and resources, researcher skills for stakeholder engagement, finding the right people, balancing multiple inputs, and understanding the best/most appropriate time in the review process to engage different types of stakeholders.(92)
Costs and/or cost-effectiveness in relation to the status quo	• **Stakeholder- and citizen-engagement processe**s o An older low-quality review found that costs related to public-engagement activities are rarely reported, but noted that well-structured processes range from tens of thousands of dollars to $1 million or more.(107) o While not explicitly providing information about costs, an older medium-quality review noted that, in general, effective patient involvement requires both personnel and financial commitments.(97)
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 (reviews were identified for both sub-elements) • Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review o Not applicable (no 'empty' reviews were identified) • No clear message from studies included in a systematic review o **Stakeholder- and citizen-engagement processes**

	▪ Most of the studies included in an older low-quality review about priority setting for health interventions in developing countries were small pilot studies, which did not include evaluations of the priority-setting processes that were described.(106) ▪ One older medium-quality review identified and compared priority-setting approaches for health technology assessment,(144) and another older but low-quality review described priority-setting processes for healthcare,(145) but neither evaluated the benefits, harms and costs of these processes given that both were focused on key characteristics of models that have been used (see the section below about key elements of the policy option for more information). ▪ An older low-quality review noted that public-engagement exercises are typically not formally evaluated, but that, despite the lack of evaluation, results of engagement processes are typically viewed as a success and claimed to have led to a direct impact on decisions.(107) ▪ A recent, medium-quality review indicated that while there is some evidence to support the developmental role of public involvement (e.g., for enhancing awareness and understanding among citizens), no clear conclusions can be drawn due to lack of clarity about what success looks like.(146) o Another medium-quality but older review similarly found few studies that described the effects of involving patients in the planning and development of healthcare.(96)
Key elements of the element if it was tried elsewhere	• **Stakeholder- and citizen-engagement processes** o A recent review outlined a model for deliberative dialogues (as one possible component for identifying a clear picture of challenges related to addressing childhood cancer), which included three key features: ▪ ensuring an appropriate meeting environment (e.g., by ensuring adequate resources, commitment from participants, transparency, timeliness of the issue, appropriate group size, clear meeting rules, pre- and post-meeting tasks and effective facilitation); ▪ ensuring an appropriate mix of participants (e.g., by ensuring fair and balanced representation of those with an interest in the issue, and that participants are motivated and provided with the resources they need to meaningfully engage in the issue); and ▪ ensuring appropriate use of research evidence (e.g., fostering a clear understanding of the policy issue among all participants by presenting what is currently known about it based on the best available research evidence).(101) o An older low-quality review about priority setting for health interventions in developing countries indicated that: ▪ most involved policymakers, health workers and the general population in their priority-setting process; ▪ quantitative techniques (e.g., discrete-choice experiments) are most appropriate where general guidance on priority-setting is needed; ▪ qualitative techniques (e.g., deliberative processes) may be best used in situations where decisions are required. o An older medium-quality review found that: the majority of priority-setting frameworks (seven of the 12 that were identified) used a panel or committee to provide advice with all committees engaging representatives from funders, health professionals and researchers; some drew on advice from a board of directors (often in conjunction with a separate committee); one-third used a rating system to inform priorities (all of these were used along with a committee); and only two models explicitly considered the balance of costs and benefits in the assessments made.(147) o An older, medium-quality review of priority setting for healthcare identified formal and informal priority-setting processes.(145) ▪ Formal processes – assemble a government-appointed committee, identify principles and factors to be considered during the priority-setting process (e.g., equity, solidarity, equality, and effectiveness and efficacy of healthcare services under review). ▪ Informal processes – informal debates, discussions among policymakers and one-off consensus development meetings. o The same review indicated that tools for generating lists of priorities based on data were often found to be impractical or conceptually difficult to understand.(145) o Eight reviews focused on public and consumer engagement. ▪ A recent medium-quality review about public involvement in healthcare policy found that key features of public involvement are poorly defined and rarely detailed.(146) ▪ A recent low-quality review outlined that having the potential to find common ground is a requirement for using public engagement to address issues, and that common goals include activities related to developing policy direction, recommendations and tools, priority setting, resource allocation and risk assessments.(94) ▪ The same review indicated that public-engagement processes include three broad characteristics: 1) a sponsor seeking input from the public; 2) participants considering an ethical- or values-based dilemma; and 3) provision of accurate and balanced information about the dilemma to participants.(94) ▪ A recent medium-quality review indicated that when adapting public-deliberation processes (e.g., citizen juries) for specific aims, special attention should be paid to recruitment, independent oversight by a steering committee, duration of the jury, moderation, and respect for volunteer participants.(99) ▪ Two medium-quality reviews (one recent and one older) outlined that the mechanisms used for public engagement need to be adapted according to the context of policy development around the issue (e.g., by forming the group in ways that are sensitive to the type of topic, history of the issue and possible power dynamics).(93;94)

	▪ An older medium-quality review found that training of patients and healthcare professionals is an important component for successfully involving cancer patients in research, policy, planning and practice.(97) ▪ An older medium-quality review defined patient involvement as "the active participation in the planning, monitoring, and development of health services of patients, patient representatives, and wider public as potential patients."(96) ▪ An older high-quality review indicated that community-engagement activities used a variety of approaches, including convening community groups, committees and workshops, and engaging educators, champions and volunteers.(100) ▪ A recent medium-quality review indicated that there was considerable overlap in the key features of stakeholder-engagement processes in the literature, and found that the methodological centrepiece of stakeholder involvement is entering into collaboration with a collective willingness to participate, and that draws on the strengths of each member while respecting their unique positions and expertise.(91) • **Designing an evaluation plan** o An older medium-quality review found several contextual factors that were associated with quality improvement success, which include: leadership from top management; a supportive organizational culture; availability of data infrastructure and information systems; experience with/years involved in quality improvement; physician involvement; motivation to change; sufficient resources; and effective team leadership.(105) o Key limitations for quality-improvement success were a lack of a practical conceptual model, a lack of clear definitions of contextual factors, and a lack of well-specified measures.(105)
Stakeholders' views and experience	• **Stakeholder- and citizen-engagement processes** o A recent medium-quality review found that those who participate in well-designed interactive public-engagement processes report high levels of satisfaction across different components of the process (e.g., communication of objectives, adequacy of the information materials provided to inform discussions, and the logistics and management of the deliberation), as well as increased levels of topic-specific learning.(148) o Case studies including project administrators' views about public engagement in the planning and development of healthcare in an older medium-quality review provided support to the view that patient engagement has contributed to changes in services.(96)

Appendix 2b: Systematic reviews relevant to Element 2 – Implement rapid-cycle evaluations and regular citizen and stakeholder engagement to identify what adjustments are needed to the approach and to ensure accountability

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 focused on primary care
Consumer- and stakeholder-engagement	Stakeholder involvement in program evaluation (91)	A review of 41 studies on the involvement of stakeholders in program evaluation consisted of reports of original research on stakeholder involvement, independent of actual evaluations, or reports of actual evaluations or meta-evaluations. There is a small percentage of studies reporting original research. Nearly half of the reviewed studies were set in health or education. The dominance of these disciplines suggests that stakeholder involvement is emphasized to a greater extent within these disciplines. Considerable overlap was found between the component and component features that the studies addressed, reflecting a conceptive commonality among researchers of stakeholder involvement. The component, *Affective Aspects of Involvement and Collaboration, Communication, and Interaction*, where parties "enter into collaboration with the appropriate degree of willingness to participate … draw on the strengths of each while respecting the positions and expertise of each other," reflects the methodological centre of stakeholder involvement. The review found very little research on stakeholder involvement in evaluation. The limited number of studies reviewed should not be taken to imply that stakeholder involvement has received little attention in the broader literature.	2010	4/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	0/41	0/41
	Defining the benefits of stakeholder engagement in systematic reviews (92)	This review sought to examine the benefits and challenges of engaging stakeholders in the process of developing and performing systematic reviews. Benefits cited include: identifying and prioritizing topics for research; providing pragmatic feedback on the research protocol;	2013	5/9 (AMSTAR rating from McMaster Health Forum)	4/24	0/24	0/24

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 focused on primary care
		aiding in recruitment of research participants; helping the researchers understand the research subject's perspective; ensuring that findings are interpreted with the end user in mind and that final products are readable and accessible; and facilitating wider dissemination and uptake of research findings. In particular, the topic refinement and research development phase of conducting a systematic review was identified as the point where stakeholder engagement yielded the greatest benefit. Challenges include time and resources, researcher skills for stakeholder engagement, finding the right people, balancing multiple inputs, and understanding the best/most appropriate time in the review process to engage different types of stakeholders. Additionally, it was found that very few studies directly measured the impact of or had quality standards for stakeholder engagement, with most relying heavily on observations and inferences.					
	Deliberative dialogues as a mechanism for knowledge translation and exchange in health systems decision-making (101)	The model developed in the review outlines three key features of deliberative dialogues, which include ensuring an: 1) appropriate meeting environment (e.g., by ensuring adequate resources, commitment from participants, transparency, timeliness of the issue, appropriate group size, clear meeting rules, pre- and post-meeting tasks and effective facilitation); 2) appropriate mix of participants (e.g., by ensuring fair and balanced representation of those with an interest in the issue, and that participants are motivated and provided with the resources they need to meaningfully engage in the issue); and 3) appropriate use of research evidence (e.g., fostering a clear understanding of the policy issue among all participants by presenting what is currently known about it based on the best available research evidence). The model further outlines several intended	2009	No rating tool available for this type of synthesis	4/17	0/17	0/17

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 focused on primary care
		effects of deliberative dialogues, including short-term (e.g., strengthened capacity of participants to address the policy issue), medium-term (e.g., strengthened community or organizational capacity) and long-term effects (e.g., strengthened system capacity to make evidence-informed decisions)					
	Effectiveness of community-engagement approaches and methods for health-promotion interventions (100)	There is little evidence on the effects of specific interventions on health promotion. Varying qualities of evidence suggest that interventions that engage the community improve the dissemination of information and the development of interventions. The review includes no evidence regarding the effectiveness of community-engagement approaches and methods for health-promotion interventions with regards to optimizing clinical practice. The evidence from one study suggests that community champions used in planning/design or delivery of health-promotion interventions can increase their level of knowledge, skills and confidence following training, and feel that they make the greatest impact in areas in which they have ownership and a stronger voice within their communities. The community-engagement approaches reviewed included the use of community groups, committees, educators, volunteers, workshops and champions. In addition, the community-engagement methods and approaches focused on the planning, design and delivery of intervention(s) in areas of cardiovascular health, childhood immunization, injury prevention, sexual health, smoking, alcohol use, nutrition and physical activity.	Not reported (published in 2008)	9/10 (AMSTAR rating from McMaster Health Forum)	4/21	Not reported in detail	0/21
	Effective strategies for interactive public engagement in developing healthcare policy and program	Interactive public engagement designed to contribute to decision-making can be successfully implemented in various situations. The relative	2009	4/9 (AMSTAR rating from	11/29	1/29	1/29

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 focused on primary care
	delivery at a provincial/regional level (93)	success of implementation is influenced by a range of contextual variables, of which organizational commitment and issue characteristics play more important roles than other contextual variables. In well-designed interactive public-engagement processes, participants generally report high levels of satisfaction with the communication of objectives, adequacy of the information materials, and the logistics of the deliberations. These public-engagement methods can influence participant views, but are less likely to alter dominant views, such as the highest priorities. Researchers note that continued ambiguity in the terminology, goals, theoretical properties and benefits of public engagement amongst Canadian health-system managers and policymakers will threaten potential meaningful progress towards informing practice and involving the public in the development of healthcare programs.		McMaster Health Forum)			
	Examining the peer-reviewed empirical evidence on outcomes of public involvement in healthcare policy (95)	The outcome of public involvement in healthcare policies remains largely underdeveloped and poorly documented. There is little to no evidence for the longer-term impact demonstrated by public involvement. There is no clear conclusion on the effectiveness of policy development from involvement activities. The review includes no evidence regarding the effectiveness of public involvement with regards to optimizing clinical practice. There is some evidence for the developmental role of public involvement (e.g. enhancing awareness, understanding and competencies among lay participants), but the unclear definition of success impedes on forming a conclusion about public involvement. There is limited data available to address the primary research questions.	2010	4/9 (AMSTAR rating from McMaster Health Forum)	5/19	0/19	5/19

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 focused on primary care**
		The key features of public involvement remain poorly defined, and its objectives are rarely specified in the literature. Indicators used to determine outcomes of this form of intervention remain inconsistent and poorly specified.					
	Examining the effects of involving patients in the planning and development of healthcare (96)	A review of 337 studies involving patients in the planning and development of healthcare found that few studies described the effects of involving patients in the planning and development of healthcare. The review defined patient involvement as "the active participation in the planning, monitoring, and development of health services of patients, patient representatives, and wider public as potential patients." Case studies reporting on project administrators' views about the impacts of patient engagement support the view that involving patients has contributed to changes to services. An evidence base does not exist for the effects on use of services, quality of care, satisfaction, or health of patients. The effects of patient involvement on accessibility and acceptability of services or impact on the satisfaction, health or quality of life of patients, has not been examined. The effect of patient contributions to the planning and development of services on the quality and effectiveness of these services across various settings is unknown.	2000	5/9 (AMSTAR rating from McMaster Health Forum)	2/42	Not reported in detail	6/40
	Public deliberation as a method for increasing public input for health research (94)	Public deliberation is presented in the literature as a specific area of political science, and it encourages members of the public to engage in and be informed about issues that shape their public life. Evidence remains consistent in suggesting that public deliberation is a method of obtaining public input on decisions that are	2010	1/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	Not reported in detail

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 focused on primary care
		important to society. The goals of public deliberation are to obtain informed public opinion, to obtain input that includes under-represented individuals and groups, to bring insights into social values and ethical principles, and to promote the acceptance of public decisions. In addition, the effects of deliberation on participants improve understanding of the complexity of decisions and enhance civic-mindedness. Identified issues that are best suited for public deliberation involve ethical and social dilemmas. It is also important to note that the potential to find common ground is a requirement for issues addressed through public deliberation. Common deliberative tasks in healthcare include the development of policy direction, recommendations and tools, priority setting and resource allocation, and risk assessments. The process of public engagement is facilitated through discussion, and prompts the public to develop solutions to societal problems posed to them. It includes three broad characteristics: a sponsor seeking input from participants (i.e., the public); participants considering the ethical- or values-based dilemma; and an information phase in which participants are given accurate and balanced information about the relative positions involved by way of educational materials, experts, etc.					
	Effectiveness of the agenda of involvement of people affected by cancer in research, policy and planning, and practice (97)	Training of patients and healthcare professionals is necessary for successful involvement of cancer patients in research, policy and planning, and practice. Patient involvement requires personnel and financial support. The opposing ideologies of individualism and collectivism are the most common rationales as to why people affected by	2004	4/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	Not reported in detail

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 focused on primary care
		cancer should be involved in research, policy and planning, and practice. Some policy and planning and research organizations have involved people affected by cancer at a strategic level, most notably in the U.K. and the U.S.A., but it is not clear how much power and influence they hold at a strategic level. 'One-off' involvement exercises to influence local policy and planning have taken place in the U.K. in the acute sector, and at a national level to develop guidelines and services, but no examples were found in social care or primary care. The biggest gap in literature about the involvement agenda is rigorous evidence of its impact on research, healthcare services, on those involved, and on the agenda itself.					
	Strategies in consumer and community engagement in healthcare (98)	This review used the term CCE to encompass the involvement of consumers (patients and their carers) and community members (i.e., non-patient community members and the community more broadly). The authors note that there remains a paucity of evidence related to the effectiveness of CCE strategies, and participation of different groups of consumers in the CCE process. CCE encompasses strategies that have been used to facilitate the improvement of the level of general service delivery and specific services within preventive care, technology, and related healthcare fields. Various tools and activities are utilized by CCE initiatives, including shared decision-making, decision aids, consumer representation, electronic and internet-based facility application, and peer support and community-based interventions. The review indicated that literature focusing on CCE strategies targeting children found that	Not reported	4/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	2/90

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 focused on primary care
		children and adolescents want to participate in their decision-making, but that healthcare professionals require guidance to assist in their involvement. When reviewing literature focusing on populations from lower socio-economic backgrounds, the authors noted that lowered costs, increased primary-care physician involvement, and modification of communication to better meet individuals' needs were all strategies that facilitated enhanced cancer screening for women in one included study. The authors indicated that a key finding from the review is that CCE initiatives should be rigorously evaluated before their implementation, as they often require immediate resource mobilization and may have hidden costs associated with them (e.g., training healthcare professionals and consumers). Additionally, there are a number of context-related factors that play a role in the success of CCE strategies; the review outlines a model to facilitate assessment of these strategies (i.e., an eight-step process identifying aim, type of activity, participants, preparedness for CCE, engagement methods, measurement, barriers and facilitators).					
	The use of citizens' juries in health policy decision-making (99)	The review describes citizen juries as a method allowing citizens to engage with evidence and deliberate and deliver recommendations surrounding a variety of complex topics. Steering committees and advisory groups involved in the citizens' jury method described in the reviewed studies included key stakeholders (e.g., policymakers), discipline experts, advocacy group representatives, clinical practitioners, deliberative methodologists, patients and caregivers. Studies described the role of the groups in a variety of ways, such as to: prevent bias in expert	2010	5/9 (AMSTAR rating from McMaster Health Forum)	10/37	0/37	0/37

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 focused on primary care
		presentation; guide question development and evidence presentation; disseminate or implement findings; and engage stakeholder representatives. The authors found that among the study population, a large number of juries were shorter in duration than recommended, and few rulings were considered by decision-making bodies (which limited transfer into policy and practice). The authors indicate that when adapting a citizen jury for a particular aim, development of the jury should involve special attention toward recruitment, independent oversight by a steering committee, duration of the jury, moderation, and respect for volunteer participants.					
Designing an evaluation plan before implementing the model, and measuring progress	Effectiveness of quality improvement strategies for coordination of care to reduce use of health care services (85)	Approaches used to improve coordination of care significantly reduce the number of people with chronic conditions (except for those with mental illness) being admitted to hospital, as well as emergency department visits for older adults.	2014	10/11 (AMSTAR rating from McMaster Health Forum)	2/50	50/50	50/50
	Contextual factors associated with quality-improvement (QI) success (105)	The review revealed that the current body of work is in the early stage. Common factors that were used in studies to relate to QI success include organizational characteristics (e.g., size, ownership, teaching status), leadership from top management, competition, organizational culture, years involved in QI and data infrastructure. Factors that were consistently examined to be associated with QI success, but reported less frequently, include board leadership for quality, organizational structure, customer focus, physician involvement in QI, microsystem motivation to change, resources, and QI team leadership. Researchers state that current research suffers from conceptual ambiguity and methodological weaknesses. As a result, they could not make definitive conclusions about the	2009	7/10 (AMSTAR rating from McMaster Health Forum)	4/47	Not reported in detail	Not reported in detail

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 focused on primary care
		influence of specific contextual factors in QI success. This review included studies that examined the association between contextual factors and success in the setting of a healthcare QI initiative. Authors define QI as "systematic, data-guided activities designed to bring about immediate, positive changes in the delivery of health care." In terms of organizational setting, included studies were based in inpatient clinics (57%), nursing homes (21%), outpatient clinics (9%), both inpatient and outpatient clinics (6%), and other settings (6%). In terms of particular QI success measures, included studies examined the extent of implementation of QI practices (32%), perception of success or improvement (40%), adoption of Total Quality Management (15%), superior organizational performance or outcome (11%), pre/post process or outcome changes(19%), and other (2%).					
	Effectiveness of various quality-improvement strategies for enhancing healthcare (109)	This review sought to assess the published literature assessing the relative effectiveness of various quality-improvement strategies (QIS) as applied to patients with medical conditions in the setting of formal clinical studies. Systematic reviews of controlled trials were selected in determining effect sizes for specific QIS, which were compared as a narrative meta-review. Research evidence suggests clinician/patient-driven quality-improvement strategies are more effective compared to manager/policymaker-driven approaches. However it must be noted that manager/policymaker-driven approaches have, in many cases, attracted inadequate rigorous evaluations to accurately determine their	2008	2/11 (AMSTAR rating from McMaster Health Forum)	Not reported	0/59	Not reported in detail

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 focused on primary care
		comparative effectiveness. The most effective quality-improvement strategies included clinician-directed audit and feedback, decision support systems, clinical practice guidelines, specialty outreach programs, chronic disease management programs, and the use of small-group discussions in continuing professional education.					
	Effectiveness of quality-improvement collaboratives in enhancing the quality of care (108)	The review included nine controlled trials, which found a moderate positive effect of quality-improvement collaboratives on processes of care and patient outcomes. This review additionally examined the findings of 60 uncontrolled reports, of which 53 trials indicated specific improvements in patient care and organizational performance due to participation in a quality-improvement collaborative. Several of the reports demonstrated dramatic improvements (i.e., 30 to 80%), but most of these uncontrolled reports were found to be methodologically weak and were likely biased in favour of positive findings. A quality-improvement collaborative intervention brings together multidisciplinary teams from various healthcare departments or organizations to allow them to collaborate for several months in a structured working environment, with the aim of improving the provision of their care. They are being used increasingly in countries such as Australia, Canada, the United Kingdom and the United States. Quality-improvement collaboratives have been used in various clinical areas and organizational contexts, and within both large and small healthcare systems.	2006	4/11 (AMSTAR rating from www.rxforchange.ca)	Not reported in detail	Not reported in detail	Not reported in detail

Appendix 3a: Summary of key findings from systematic reviews relevant to Element 3 - Support the implementation of a primary care 'home' approach to reach all Ontarians

Category of finding	Summary of key findings
Benefits	• **Using strategies to support change in organizations and health systems** o An older overview of reviews and older low-quality systematic review found that innovations in healthcare are facilitated by factors related to the nature of the innovation, characteristics of the adopters and the context in which they are implemented.(110;111) o An older medium-quality review found that quality improvement initiatives borrowed from other industries can improve surgical care.(113) o A recent low-quality review found general benefits associated with introducing Lean management in healthcare, but couldn't determine specific benefits,(114) and an older low-quality review also found benefits associated with Lean management as well as a number of other organizational transformation strategies.(115)
Potential harms	• None identified
Costs and/or cost-effectiveness in relation to the status quo	• None identified
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 clear message from studies included in a systematic review o **Using strategies to support change in organizations and health systems** ▪ A recent low-quality review reported that there is still uncertainty about whether there are potential challenges associated with the implementation of Lean management principles in healthcare settings.(114)
Key elements of the element if it was tried elsewhere	• An older low-quality review found that large system transformation in health systems requires: 1) both top-down and distributed leadership; 2) measurement and reporting of progress; 3) consideration of historical context; 4) physician engagement in the change process; and 5) engagement of patients and families.(116)
Stakeholders' views and experience	• None identified

Appendix 3b: Systematic reviews relevant to Element 3 – Support the implementation of a primary care 'home' approach to reach all Ontarians

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 focused on primary care
Organization- or system-targeted implementation strategies	Examining the evidence of effectiveness among three current popular transformational strategies applied in healthcare organizations: Six Sigma, Lean/Toyota Production System, and Studers Hardwiring for Excellence (115)	The implementation of the transformation strategies examined (Six Sigma, Lean/Toyota Production System, and Studers Hardwiring for Excellence), was successful in improving healthcare-related processes and outcomes across a wide range of settings, and for a wide range of problems. The results must be considered with some caution as the included studies in this review had methodological limitations.	2007	1/10 (AMSTAR rating from McMaster Health Forum)	0/19	1/19	0/19
	Determining the factors that facilitate large health system transformations (116)	The review found five key themes related to the factors that facilitate large-scale system transformation in health systems, including: 1) system transformation requires top-down leadership that is passionately committed to change, as well as distributed leadership and engagement of personnel at all levels of the system; 2) measurement and reporting on progress toward short- and long-term goals is critical to achieving effective and sustainable large-system transformation; 3) awareness and consideration of historical context will help to avoid unnecessary pitfalls associated with system transformation, and will also help to ensure buy-in and support crof necessary stakeholders;	2010	3/9 (AMSTAR rating from McMaster Health Forum)	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 focused on primary care**
		4) large-system transformation relies on significant physician engagement; and 5) if large-system transformation aims to increase patient-centredness, patients and families must be engaged in the transformation process.					
	Summarizing what is known about how to spread and sustain innovations in health service delivery and organization (111)	The review aimed to define and measure the diffusion of innovations in healthcare organizations. Innovations and diffusion of innovations across healthcare organizations represent a complex set of situations that are characterized by multiple interactions. Innovations that have the following characteristics are generally adopted more readily across individuals and organizations:1) relative advantage; 2) compatibility; 3) low perceived complexity; 4) trialability; 5) observability; and 6) potential for reinvention. Additionally, innovations perceived to have low risks, are aligned with tasks performed by those who are intended to use it, require low levels of knowledge to use and are customized to a particular application are more likely to be adopted. Diffusion of adopted innovations can be facilitated by: 1) strong social networks among individuals working in the system; 2) similarities in adopters' socio-economic, educational, professional and cultural backgrounds; 3) support from opinion leaders and	2003	6/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	Not reported in detail

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 focused on primary care
		champions; 4) individuals who 'span boundaries' to share an innovation across organizations and settings; and 5) formal dissemination programs. At the level of the system, several antecedents exist to support successful adoption and diffusion of an innovation. These include: 1) structural determinants of innovativeness (where large, mature, functionally differentiated and specialized organizations increase the likelihood of innovations); 2) absorptive capacity for new knowledge; and 3) a receptive context for change.					
	Identifying ways to measure factors affecting implementation of health innovations at the level of organizations, providers, patients and the level of the innovation itself (112)	Implementation outcomes are a function of multiple types of broad factors that exist, including structural (e.g., socio-cultural, economic policy and political context), organizational (e.g., leadership effectiveness, organizational culture and receptivity to innovation), provider (e.g., characteristics of individual providers who will be affected by an innovation), and innovation-level actors (e.g., characteristics of an innovation). Organization, provider and innovation-level constructs were found to have the greatest number of measures available for use, with far fewer available for structural and patient-level constructs.	2012	4/10 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	Not reported in detail
	Identifying empirical and theoretical articles to present a comprehensive overview of issues highlighted in relation to the implementation of the Lean model in healthcare (114)	Lean is best understood as a means to increase productivity, with an emphasis on driving out waste so that all work adds value and serves the customer's needs. In the realm of healthcare the hospital setting has been the most common setting for implementing and	2013	2/9 (AMSTAR rating from McMaster Health Forum)	Not reported in detail	Not reported in detail	Not reported in detail

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 focused on primary care
		evaluating the management model. The results of Lean application in healthcare are generally positive, but many findings are also inconclusive with respect to defining specific positive impacts or challenges. Little is known about the potential downsides of Lean, the magnitude of investment required to implement the model, and/or challenges in engaging the whole organization during implementation.					
	Identifying and evaluating the application and effectiveness of quality-improvement initiatives from the manufacturing industry in the field of surgical healthcare (113)	Studies identified included a number of different quality-improvement models, including: 1) continuous quality improvement (CQI); 2) Six Sigma; 3) total quality management (TQM); 4) plan-do-study-act (PDSA or plan-do-check-act (PDCA); 5) statistical quality control (SQC); 6) Lean; and 7) Lean Six Sigma. The most common aims of the studies were to reduce surgical complications and improve surgical outcomes, reduce infections, or reduce theatre delays. The strategies evaluated were shown to have significant positive effects on improving surgical care, from reducing infection rates to increasing operating room efficiency, although stronger evidence is needed from rigorous randomized multicentre studies.	2010	5/10 (AMSTAR rating from McMaster Health Forum)	0/34	0/34	0/34
	Examining the literature on innovations in healthcare to outline key learning points about how to spread and embed innovation in healthcare (110) *Note that this is an overview of	Determinants of innovation include: 1) factors relating to the nature of the innovation itself such as its relative advantage, complexity, trialability and maturity; 2) characteristics of the adopting individual (e.g., cognitive capacities); 3) characteristics of the	2009	Not applicable – no rating tool available for overviews of systematic	n/a	n/a	n/a

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 focused on primary care
	systematic reviews	adopting organization (e.g., size and structure); and 4) features of the broader environment and context. There are many tools available to help support innovation, but evidence of their effectiveness varies. Potentially useful tools include published evidence, decision and dissemination support tools (e.g., guidelines), organizational and inter-organizational networks, leadership development and evaluation and review. It is important to build and maintain capacity within frontline organizations, establish cross-boundary communities of practice and harness leadership at all levels to ensure spread of an innovation. Organizational connectedness will help to facilitate faster and more resilient innovation adoption.		reviews			

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