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Organizing a Care System for Older Adults in Ontario

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Evidence Brief:
Organizing a Care System for Older Adults in Ontario

14 November 2011

McMaster Health Forum

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

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Conflict of interest

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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?

- There is a need to plan now for how to organize a care system for older adults in Ontario as the population continues to age and we strive to support the health and social care needs of older adults.
 - The number of people over the age of 65 in Ontario is projected to double from 1.8 million (13.9% of the population) in 2010 to 4.1 million (23.4% of the population) by 2036, which will result in more people living with chronic conditions and requiring both healthcare and community supports.
 - The current care system for older adults in Ontario makes available only select programs and services to support older adults to lead healthy and independent lives in their own homes, and those programs and services that do exist can lack important programmatic supports, be limited in scope and be difficult to access.
 - A variety of gaps exist in the health system arrangements within which care for older adults is provided. The gaps exist in delivery arrangements (e.g., lack of supports for self-management), financial arrangements (e.g., out-of-pocket payment that can deter the use of additional home care or community supports) and governance arrangements (e.g., lack of mechanisms to support the engagement of older adults and their families in the planning and delivery of services).
 - A comprehensive care system for older adults also needs to address myriad gaps in broader system arrangements, including support for informal caregivers, providing financial supports and flexible employment options, and ensuring the availability of stable housing.
 - The implementation of previous strategies has not addressed all gaps, including gaps in supports for self-management.

What do we know (from reviews) about three elements of an approach to address the problem?

- Option 1 – Support older adults and their families in ways that support healthy aging
 - Several high-quality systematic reviews found benefits for: providing self-management supports; providing information to patients and their families at lower reading levels; providing pre-session booklets or visits to increase questioning and a more active role in care; using telehealth to reduce unnecessary hospital visits and service use; providing specialist outreach to improve access to services and outcomes; and supporting flexible employment for caregivers. No reviews were found that addressed transportation programs, income supplements or accessible communities.
- Option 2 – Coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging
 - Several high-quality reviews found benefits for: using home visits to reduce admissions to healthcare institutions; providing end-of-life care in the home; using comprehensive discharge planning to reduce hospital readmissions; providing flexible and responsive respite care for caregivers (albeit limited impacts); using comprehensive geriatric assessment to improve health outcomes; using a primary care staffing model in long-term care settings; using financial incentives for improving process of care and referrals; providing customized rehabilitation and disease management to prevent admissions to long-term care facilities and readmissions to hospital; and using specialized geriatric units to prevent functional decline at discharge. No reviews were found for creating consumer complaints processes, designing accessible healthcare institutions or providing financial protections.
- Option 3 – Coordinate integrated community resources that are built around the needs of older adults and support healthy aging
 - High-quality reviews found benefits for using case management models to support integrated homecare and community programs and discharge to the community, and medium-quality reviews found benefits for using electronic medical records and encouraging physical activity. No reviews were found that assessed the benefits of designing evidence-based toolkits, customized community supports, consumer complaints processes, social capital enhancements or accessible communities.

What implementation considerations need to be kept in mind?

- The implementation of these three elements requires coordination and consensus building between multiple sectors and levels of government, as well as having providers and organizations modify existing roles and/or expand their typical scope of practice and activities.

REPORT

The health of the aging population has been identified as a high priority for the province of Ontario and has become one of the province's most pressing health and social policy issues.(1) In addition, healthcare expenditures in Ontario now exceed 46% of the provincial government's annual budget.(2) In comparison to other countries, Canada has the fifth highest total per capita spending on health in the world and is among the six countries with the highest ratio of total health expenditure to GDP.(3) As the baby-boom generation approaches and enters into retirement, the challenges that Ontario faces in supporting the health and social care needs of an aging population will intensify significantly. Those over the age of 65 consumed approximately 44% of provincial and territorial government health spending in 2008, but comprised only 13.7% of the population.(4) These challenges are further intensified by the current resource constraints facing the province after a significant recession, with the resulting government deficit and debt levels meaning that Ontario has to do more with less.

To strengthen the continuum of care for older adults, Ontario implemented a four-year, \$1.1 billion Aging at Home Strategy in 2007,(5;6) which was expanded in August 2010 by \$143.4 million (increasing the total annual amount in 2010 to \$330.6 million).(7;8) The funding was allocated to the 14 Local Health Integration Networks (LHINs) who were responsible for identifying and providing funding for enhanced home care and community support services, as well as for innovative projects specific to their LHIN. In general, the strategy was designed to enable people to continue leading healthy and independent lives in their own homes, and the goals were to help patients transition to the community more quickly (from hospitals or other care facilities), take pressure off hospitals, and help to lower wait times.(5;8)

With the Aging at Home Strategy coming to an end, there is a need to adopt a long-term perspective in planning for how to organize a care system for older adults in Ontario. This evidence brief and the stakeholder dialogue it was prepared to inform were designed to inform the actions of those involved in planning and making decisions about organizing a care system for older adults. The evidence brief reviews the research evidence about: 1) key features of the problem of a lack of a comprehensive and integrated care system

Box 1: Background to the evidence brief

This evidence brief mobilizes both global and local research evidence about a problem, three options 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 not contain recommendations.

The preparation of the evidence brief involved five steps:

- 1) convening a Steering Committee comprised of representatives from the partner organizations (and/or key stakeholder groups) 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 options 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 options for addressing the problem were designed to be elements of a comprehensive approach. They could be pursued simultaneously or in a sequenced way, and each option 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.

for older adults; 2) three elements of an approach for organizing a care system for older adults; and 3) key implementation considerations for moving forward.

In this evidence brief, the term older adults is used to describe someone who is 65 years of age and older. However, this definition is far from ideal as grouping everyone over the age of 65 provides a very broad and heterogeneous population, with clear differences between life at age 65 and those who are aged 75, or 85 or more years.(9) In addition, the aging process is experienced differently by each person, and a number of terms have been developed to describe aging in relation to health. The most common terms include:

- Healthy aging: "...a lifelong process optimizing opportunities for improving and preserving health and physical, social, and mental wellness; independence; quality of life; and enhancing successful life-course transitions.”(10;11)
- Active aging: The WHO suggests that “if ageing is to be a positive experience, longer life must be accompanied by continuing opportunities for health, participation and security”, and it has adopted the term ‘active ageing’ for achieving this vision. The WHO defines active aging as “the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age.”(12)
- Successful aging: Several definitions of successful aging have been developed and include:
 - “successful aging is multidimensional, encompassing the avoidance of disease and disability, the maintenance of high physical and cognitive function, and sustained engagement in social and productive activities.”(13)
 - “minimal interruption of usual function, with minimal signs and symptoms of chronic disease;”(14;15) and
 - “doing the best with what one has.”(16)

When asked directly about the essential components of aging or their views about the definition of successful aging, older adults more frequently endorsed social engagement and positive outlook towards life as important factors as compared to physical health status.(17-20) We therefore place more emphasis on the components included in the healthy aging and active aging definitions as they include a focus on social engagement and positive outlook. The term frailty is also used frequently in this evidence brief, which “represents a state of reduced homeostasis and resistance to stress that leads to increased vulnerability and risk for adverse outcomes such as the progression of disease, falls, disability, and premature death.”(21). Five characteristics typically define the frailty phenotype: “weakness, poor endurance, reduced physical activity, slow gait speed, and unintentional weight loss over the past year. Individuals with three or more of these characteristics are classified as ‘frail’ while those with one or two are labeled as ‘prefrail’.”(22)

Box 2: Equity considerations

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

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

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

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

- older adults of low socioeconomic status; and
- the frail elderly.

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.

In the evidence brief we also use the terms home or living in the community to refer to either an older adult's or their family's residence or a community residential setting, such as a retirement home, residential hospice, assisted living facility, and supportive housing program (where supportive services are typically provided). The terms home or living in the community do not include long-term care homes or other institutions or care facilities.

Lastly, we will use the definition of home care that is provided by the Canadian Home Care Association, which states that home care is “an array of services for people of all ages, provided in the home and community setting, that encompasses health promotion and teaching, curative intervention, end-of-life care, rehabilitation, support and maintenance, social adaptation and integration and support for the informal (family) caregiver.”(23)

The scope of this evidence brief is focused on elements that contribute to organizing a care system for older adults and includes working across the components required for building a continuum of care. For instance, older adults may require episodic care and/or short-stays in care facilities, which are followed by long periods of living in the community, with or without family, community or homecare supports, or long-term stays in institutions that provide ongoing care and support. In addition, the scope of the evidence brief includes the broader determinants of health for older adults such as the need for stable housing, social engagement and flexible employment for caregivers and older adults.(24)

The following key features of the health policy and system context in Ontario were also taken into account in preparation of this evidence brief:

- Ontario's publicly funded healthcare system is distinguished by a long-standing private delivery/public payment agreement between government on the one hand and physicians and hospitals on the other;
- the agreement with physicians has historically meant that most healthcare is delivered by physicians working in private practice with first-dollar (i.e., no deductibles or cost sharing), public (typically fee-for-service) payment;
- the private practice element of the agreement has typically meant that physicians have been wary of potential infringements on their professional and commercial autonomy (e.g., directives about the nature of the care they deliver or the way in which they organize and deliver that care);(6)
- other healthcare providers such as nurses, physiotherapists, occupational therapists and dietitians, as well as teams led by these providers, are typically not eligible for public fee-for-service payment (or at least not on terms that make independent healthcare practices viable on a large scale);
- other healthcare and community services such as prescription drug coverage, home care and long-term care homes receive partial public coverage in Ontario, but not with the same type of first-dollar coverage provided for hospital-based and physician-provided care (e.g., co-payment is required for prescription drugs for those 65 years of age and older, home care may only cover some of the homecare services that are needed, and long-term care homes are provided but with co-payments);
- decisions relating to the planning, funding and integration of healthcare are the responsibility of the 14 Local Health Integration Networks (LHINs); and
- the 14 Community Care Access Centres (CCACs) – one for each LHIN – have responsibility for the assessment, care planning, care coordination and quality monitoring of publicly funded home health services, as well as support for information, referral and navigation of available community services.(25)

THE PROBLEM

The challenge of organizing a care system for older adults in Ontario can be understood by considering five sets of inter-related issues: 1) numbers of older adults and their need for healthcare and social supports are increasing; 2) current programs and supports for older adults have some limitations; 3) current health system arrangements don't support the full continuum of care and supports; 4) broader system arrangements also don't fully meet the needs of older adults; and 5) implementation of previous strategies has not addressed all gaps.

Number of older adults and their need for healthcare and social supports are increasing

The most recent population projections for Ontario indicate that the number people over 65 years of age is predicted to more than double from 1.8 million (13.9% of the population in 2010) to 4.1 million (23.4% of the population) by 2036.(26) The most significant period of growth in those aged 65 and over is expected to occur with the annual growth rate of 3.5% expected between 2011 and 2031 (the period during which the baby boomers will turn age 65) after which the growth is expected to slow to 1.8%.(26) Despite the slowing annual growth rate of those aged 65 and over after 2031, this rate is still expected to be much faster than the 0-14 and 15-64 age groups.(26) In addition, OECD population predictions indicate that the proportion of those over the age of 65 in Canada will represent more than 30% of the population in 2050.(27) Lastly, it is expected that the fastest growth will be in the oldest age groups. The population projections from Ontario indicate that the number of people 75 years of age and older is to grow from 865,000 in 2010 to approximately 2.2 million by 2036, and the 90+ age group is expected to more than triple in size from 79,000 to 291,000.(26) The OECD similarly predicts that the number of people over the age of 80 is expected to increase from 3.5% in 2010 to nearly 10% in Canada in 2050.(27)

This shift in the population can be expected to contribute to more people requiring healthcare as well as social and community supports. Specifically, the prevalence of dependence for activities of daily living (e.g., bathing or dressing), instrumental activities of daily living (e.g., running errands and doing everyday housework) and chronic conditions has been found to increase with age.(28) In Canada, approximately 75% of older adults report having at least one chronic condition and approximately 24% report having three or more chronic conditions (as compared to only 12% percent of younger adults).(28;29) In addition, older adults are at increased risk of experiencing conditions such as depression, loneliness and fatigue.(30) Furthermore, older adults identified as frail are at significantly higher risk for falls, mobility limitations and functional decline, hospitalization, and death within three years.(22) However, the impact of an aging population on the use of healthcare services may be at least partially tempered due to the significant decline in the prevalence of chronic disability.(31;32) That said, changes in societal structures (e.g., reductions in family size and/or limited family ties due to more family members living and working at significant distances from other members) and increased demand for better quality, more responsive and technology-based systems of care (as a result of wealthier societies in general) will likely increase the need for paid care and increase costs.(27) To at least partially address the current pressures facing the system as well as the anticipated pressures, there is a need to provide appropriate supports that help older adults delay and manage chronic

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 "hedgies" 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, Canadian Institute for Health Information, Health Council of Canada, European Observatory on Health Systems and Policies, Health Evidence Network, Health Policy Monitor, and Organisation for Economic Co-operation and Development.

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

diseases and pain (e.g., physical activity), which may reduce the dependency associated with chronic conditions and increase their ability to live well at home and in the community for as long as possible.(9)

The utilization of healthcare services has been found to increase with age (especially among those with one or more chronic conditions).(29) Moreover, the Canadian Institute for Health Information found that the 24% of older adults who reported living with three or more chronic conditions were responsible for 40% of healthcare use among Canadian older adults.(29) As well, older adults with three or more chronic conditions used three times as many healthcare services, made six times as many health care visits (in general), had twice as many visits to a family doctor, and made three times as many visits to emergency departments as compared to older adults with no reported chronic conditions.(29) As a result, Ontario will need to adapt its care system in order to provide better quality health and social care that meets the needs of older adults with multiple chronic conditions.

Current programs and supports for older adults have some limitations

It has been found that more than 90% of older Canadian adults live independently in the community and want to remain there.(9) However, given anticipated increases in the prevalence of chronic conditions, there is a clear need for a mix of healthcare services as well as social supports to allow older adults to live independently at home or in the community. The current care system for older adults in Ontario makes available only select programs and services to support them in leading healthy and independent lives in their own home, and those that do exist often lack important programmatic supports, are limited in scope and/or are difficult to access.

For instance, prescription medication is provided (with a co-payment) to those 65 years of age and older through the Ontario Drug Benefit Program. However, there is a lack of self-management programs to support older adults and their families in managing their medication despite many requiring multiple concurrent prescription medications (especially those with one or more chronic conditions). For instance, the Canadian Institute for Health Information reports that 62% of older adults accessing public drug programs are using five or more drug classes, and that the number of drug classes being used increases with age (29% of those over the age of 85 had claims for 10 or more drug classes).(33)

There is also a lack of homecare programs to effectively support older adults to live well and safely in their homes for as long as possible. Government-funded homecare services are provided through the 14 Community Care Access Centres (CCACs) in Ontario. However, older adults can typically only receive part of their needed home care services through these programs, requiring many to privately purchase additional services, which creates inequitable access as those of low socioeconomic status likely cannot purchase some or all of the additional supports they need. The Ontario Home Care Association notes that in 2009/10 approximately 603,535 individuals received 29,419,559 visits/hours of care at home that were funded by the CCACs, of which 59% were for older adults.(34) However, the Ontario Home Care Association also estimates (using internal membership surveys and cross-checks for reasonableness against data presented in a report from CIHI (35)) that approximately 150,000 Ontarians purchase 20 million visits/hours of homecare services annually in order to remain at home (34;36), meaning that approximately 40% of homecare visits are financed privately in Ontario. Furthermore, it is likely that there is additional unmet need for home care among those who do not have private insurance or who are unable to pay out-of-pocket for the additional costs. Of the public visits delivered in 2009/10 in Ontario, approximately 69% were for personal support/homemaking, 26% were for nursing services and 5% were delivered by therapy providers (e.g., physiotherapists and occupational therapists).

These data suggest that there is a gap between the amount of homecare services demanded and those supplied through government-funded programs in Ontario, with potentially negative health consequences for those unable to afford these services. However, it is less clear whether the mix of homecare services is appropriate. The level of personal support/homemaking could appear high when considered in the context that these types of activities have traditionally been provided through family and community supports. In

contrast, the amount of services delivered by therapy providers may appear lower than expected when compared against the range and types of services highlighted as being part of home care in the definition provided by the Ontario Home Care Association. Findings using data from the 1994 to 2003 period indicate that the number of homecare clients receiving nursing and personal care increased substantially during this time period – from 39% to 52% – but at the same time those receiving assistance with housework decreased from 51% to 33%.⁽³⁷⁾ In addition, the estimated number of people requiring help with personal activities increased from 254,000 to 434,000 during the study period, but the proportion actually receiving the supports they need decreased to 35% from nearly half at baseline.⁽³⁷⁾ Overall, the trends from the data indicate that homecare services are increasingly focused on delivering complex care for fewer clients and less focused on those requiring help with more general activities.

As the population continues to age, there will be increased pressure placed on long-term care homes. As highlighted in a recent report about alternate levels of care (ALC) in Ontario, the current system of care has a “culture that emphasizes ‘permanent’ placement of seniors in long-term care homes without appropriate consideration of the patient’s potential to improve or recover and be cared for at home with support.”⁽³⁸⁾ The report further highlights that permanent placement in long-term care homes is often an outcome that could be avoided for many older adults.⁽³⁸⁾

The pressure placed on long-term care homes in Ontario can be seen from the increased wait times experienced by older adults in recent years. For instance, the number of ALC patients (those waiting to be transferred to an alternate level of care) waiting for placement in long-term care facilities in Ontario almost doubled between 2005/2006 and 2008/09.⁽³⁹⁾ In addition, older adults (not just those classified as ALC) are waiting longer for placement in long-term care homes, with time to placement increasing from 45 days to 103 days (a 129% increase) from 2005/06 to 2008/09.⁽³⁹⁾ Similarly, the 90th percentile wait time (when nine out of 10 individuals on the wait list have been placed in long-term care) increased from 452 days in 2005/06 to 618 days in 2008/09 (a 37% increase).⁽³⁹⁾ If all older adults who are currently on wait lists were to be placed in long-term care facilities, estimates indicate that more than 130,000 beds would be required by 2021 (an approximate 75% increase in bed capacity), which would also need to be accompanied by further investments in community services.⁽³⁸⁾ Effectively managing this pressure on long-term care homes will require a mix of healthcare services (e.g., home care), social supports (e.g., providing transportation and programs to limit social isolation) and programs supporting self-management that will help older adults and their families to live well at home and for as long as possible. Part of the solution could involve long-term care homes shifting some of their resources to cyclical, restorative, transitional and respite care programs to help older adults return to living in the community when permanent placement is not necessary.⁽³⁸⁾

Current health system arrangements don’t support the full continuum of care and supports

Delivery arrangements

Many older adults and their families are not provided with the necessary healthcare in their own homes, supports for self-management and supports in their communities that facilitate the optimal delivery of care. In the absence of these types of supports, older adults may seek care in sub-optimal settings such as emergency rooms, and thus contribute to longer waiting times for others. Data in Ontario indicate that there is an increasing trend in the number of emergency department visits for potentially preventable conditions among older adults, and a clear association between age and the rate of emergency department visits.⁽³⁹⁾

When older adults are admitted to hospital, there is a need to begin planning for effective transitions to different settings and services, as well as appropriate home and community supports and supports for self-management, as this will allow them to be discharged from hospital as quickly as possible after their condition has been stabilized. However, data from Ontario indicates that “Ontario has the highest ALC rates in Canada, and data indicate that this has remained relatively unchanged between 2008 and the third quarter of 2010/2011.”⁽³⁸⁾ As well, the percentage of ALC days increased substantially from 2004/05 to 2008/09 for all age groups, which was coupled with a decrease in the ratio of acute care beds per 100,000 Ontario older

adults.(39) These findings point to gaps in current delivery arrangements, such as the need to ensure that each older adult receives a mix of services and supports based on their specific needs in a timely manner. However, once discharged, the system for community supports is also fragmented across many different not-for-profit agencies in Ontario, which further complicates the ability of older adults to access services efficiently and in a timely manner. Some of these agencies provide services that are coordinated through the CCACs, but many are quite independent of them, resulting in a system that is difficult for older adults and their families to navigate.

Addressing these issues requires coordinated and multidisciplinary assessment (e.g., to determine the specific mix of health and community supports needed), as well as efficient transitions, including discharge planning, that link to community supports. In addition, electronic health records are increasingly recognized as an important tool for supporting coordinated and integrated systems, but Ontario currently lacks a comprehensive approach to share data both within and between the health and community support systems.

Achieving an appropriate supply of healthcare providers and spaces in appropriate settings (e.g., acute geriatric wards in hospitals, long-term care institutions, etc.) is also a challenge given the anticipated increase in the number of older adults and associated utilization of healthcare services. Approximately 2% of long-term care users in Canada receive care in institutions, and the demand for long-term care is driven by age with approximately half of users (both institutional and home-based care) across the OECD being aged 80 years or older.(27) As a result, expected demographic shifts in Ontario will likely have a significant impact on the need for care provided by nursing homes and long-term care facilities, in turn requiring increases in and more efficient use of human resources and space in care facilities.

Financial arrangements

Patients often have to pay for additional home and community supports that are needed, such as additional rehabilitation therapy, nursing care, other types of home care and transportation to medical appointments. In addition, the coverage of these services can vary by LHIN depending on how each has invested their funds. As a result, it is difficult for providers and organizations (e.g., CCACs) to develop comprehensive and customized packages of care and services for older adults based on their specific needs (and irrespective of their ability to pay for these packages).

The current remuneration structure for physicians in Ontario provides few incentives for achieving specific targets (and those targets that exist are typically only for physicians who have moved from fee-for-service remuneration to a blended remuneration mechanism), and very few that come close to rewarding the provision of the types of complex chronic care typically required by older adults (particularly those with one or more chronic conditions).

Governance arrangements

Several gaps in the health system in Ontario exist that make it difficult for older adults and their families, friends and other caregivers to engage with the system and/or be responsive to their needs. First, there is a lack of structures and processes to support obtaining input from older adults, their families, friends and caregivers, as well as the use of research evidence, in decision-making about programs and services. Such processes could better ensure that decisions about the system take into account the views and perspectives of those that it is designed to support (i.e., older adults and families/caregivers). These processes are critical for providing a voice for older adults in their care, and allow for timely identification of areas where the system is not meeting their needs. Second, as highlighted above, the system for community supports is fragmented across many different not-for-profit agencies in Ontario. These agencies are often funded by the Ontario Ministry of Health and Long-Term Care/LHINs, but others are independent. Given that many provide services that are separate from those coordinated by CCACs, there is a lack of coordination of the scope and content of support services, which could further contribute to a system that is difficult for older adults and their families to navigate. Lastly, there is a lack of general training requirements for healthcare providers

related to the unique aspects of providing care to older adults. Such training for providers would help ensure care and supports are delivered in ways that are appropriate and sensitive to the specific needs of older adults and their families.

Broader system arrangements also don't fully meet the needs of older adults

Supporting older adults as they age (and their families and caregivers) extends beyond the health system and includes broader system supports that span several sectors (e.g., housing, employment, transportation and infrastructure). In addition to health services, key determinants of health include broad considerations such as income and social status, social support networks, education and literacy, employment, social and physical environments, coping skills, gender and culture.(24) Furthermore, the social and economic factors that act as determinants of health have consistently been shown to be the most significant drivers of population health.(40)

A large number of older adults are living in poverty or have difficulty with making ends meet. While the incidence of low-income older adults has steadily declined in Canada over the last two decades, data from Statistics Canada indicates that 11.8% of older adults are classified as low-income.(41) The National Seniors Council notes that low-income older adults spend close to 60% of their income on housing and food, which results in many experiencing difficulty in paying for transportation and healthcare costs.(42) Considering the additional costs associated with the health and community supports that older adults can require, many face difficult choices between paying rent, bills or buying healthy food, and, as a result, some need financial and/or housing supports.(43)

Additionally, the social and supportive housing system in Ontario is limited in the availability of units. For instance, there are currently 152,077 households on waiting lists for social housing in Ontario, and these lists have grown by 17.7% (22,824 households) since 2009.(44;45) In addition, decision-making about supportive housing is fragmented across levels of government (provincial and municipal) as well as agencies within government, and is delivered through 170 providers throughout the province, making for a complicated system for older adults to access.(46) The Canadian Mortgage and Housing Corporation (CMHC) measures “core housing need,” which refers to a household that “does not meet one or more standards of adequacy, suitability and affordability, and it would have to spend 30% or more of its before-tax income to pay the median rent of alternative local market housing that meets all three standards.”(45) Based on this definition, the CMHC found tenant households that are most likely to be in need of core housing included seniors living alone (among others, such as female lone parents, recent immigrants, households receiving government transfers as their major source of income, and Aboriginal households).(45)

Another example of a key gap in broader system arrangements is the need to support informal caregivers as they are a fundamental part of providing care for older adults.(23;47;48) For instance, it is estimated that there are more than two million informal (i.e., unpaid) caregivers in Canada.(47;49) In addition, Statistics Canada indicates that approximately one in five (20%) Canadians over the age of 45 is a caregiver (50), which amounts to approximately 70% of care provided to older adults in the community.(51) The estimated economic value of these contributions is in the range of \$25 billion in Canada.(52) Similarly, across the OECD, more than 10% of adults over the age of 50 provide (typically unpaid) assistance with personal care to those with functional limitations.(27) However, despite their extensive contributions, support for caregivers is often limited, even though *not* providing supports is associated with reduced labour supply, an elevated risk for poverty and a higher prevalence of mental health problems such as anxiety and depression among family members providing care.(27;47;53-56) Furthermore, a systematic review found that those identified as either intensive caregivers and/or primary caregivers (as opposed to caregivers in general) were significantly less likely to be in the labour force as compared to non-caregivers.(53) Given the preference of the majority of older adults to remain in their homes, but with many requiring some form of assistance from informal caregivers to do so,(47;57), policies and programs that support caregivers can be an important component of a care system for older adults. These policies and programs can include providing flexible employment or income supports (e.g., tax measures that have been implemented at the federal level in

Canada that address some of the costs associated with caregiving)(58) and helping with adapting home environments to support effective home care (e.g., the home retrofitting program from the Canadian Housing and Mortgage Corporation)(59) and services (e.g., respite care).

Implementation of previous strategies has not addressed all gaps

The implementation of the Aging at Home Strategy and other initiatives, such as efforts to address overcrowding in emergency departments, have had success in some areas, they have not been able to solve all of the challenges facing the system. As a result, it has recently been highlighted that a more fundamental shift is required for how the care and support system functions in Ontario.(38)

In addition, our own analysis of the programs funded by the Aging at Home Strategy found that only nine out of the 14 LHINs provided publicly accessible documentation of the programs funded through the strategy. Based on the documentation available from the nine LHINs, we reviewed 404 programs and classified each based on whether it was focused on supporting self-management, healthcare services or community supports (with some being classified under more than one category). We found that the majority of programs were focused on healthcare services (n=122) and social/community supports (n=259) and that, in general, there was minimal investment in programs designed to support self-management (n=42). Any perceived imbalance between the types of funded programs could be the result of a shift in focus of the Aging at Home Strategy (from the Ontario Ministry of Health and Long-Term Care, which sets the policy focus), data limitations from incomplete reporting, and/or because other parts of the LHIN budgets were used to invest in self-management. Regardless, one of the key issues is still that there is currently no accurate data about the impacts achieved by the money from the Aging at Home Strategy.

Additional equity-related observations about the problem

An important element of the problem that requires further discussion is the impact of socioeconomic status on older adults' health, and access to health and other support services. According to data from the Canadian Community Health Survey, the percentage of older adults with two or more chronic conditions is higher among low-income individuals (71% for women and 61% for men) compared to those classified as high-income (57% for women and 51% for men).(60) While low-income status among older adults is not limited to any specific group, the unattached (single), those who have worked less than 10 years, recent immigrants, and Aboriginal peoples are most at risk,(42) which suggests that these groups may face (on average) higher rates of chronic disease. In addition, a systematic review found that low-income individuals pay the highest out-of-pocket payments for healthcare related costs in relation to their earning.(61) Furthermore, the review found that those with lower levels of education are more likely to have higher out-of-pocket payments for prescription drugs, and to have insufficient insurance protection, and that women often face higher out-of-pocket payments as a result of their lower income and lower labour participation rate.(61)

THREE ELEMENTS OF AN APPROACH FOR ADDRESSING THE PROBLEM

“An opportunity, and in fact, a duty, exists to transform our health care system to meet the needs of this increasingly aged population who will live longer, in states of both health and illness.”(38)

Many elements could be selected as a starting point for deliberations about an approach for organizing a care system for older adults in Ontario. We grouped the potential components of an approach into three elements:

- 1) support older adults and their families in ways that support healthy aging;
- 2) coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging; and
- 3) coordinate integrated community resources that are built around the needs of older adults and support healthy aging.

The elements contribute to a comprehensive approach to supporting healthy aging for older adults, are designed to address three core areas of a care system (self-management, healthcare services and community supports) and collectively focus on addressing the determinants of health to support healthy aging. While these elements are complementary to each other, they are presented separately to foster deliberations about their respective components, the relative importance or priority accorded to each, and whether some elements (or their components) can be sequenced in a way that achieves near-term wins in a difficult economic climate while paving the way for longer-term wins as economic conditions improve.

The focus in this section is on what is known about these elements. 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.

In Table 1, we list the determinants of health as identified by the Public Health Agency of Canada (24) and outline the components of each element according to the determinants that they address.

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

The available research evidence about elements of an approach for addressing the problem was sought primarily from Health Systems Evidence (www.healthsystemsevidence.org), which is a continuously updated database containing more than 1,700 systematic reviews of delivery, financial and governance arrangements within health systems, and of implementation strategies within health systems. The reviews were identified by first searching the database for reviews containing the terms aged, aging, senior, elder*, older person or older adult in the title and/or abstract. Additional reviews were identified by searching the database for reviews addressing features of the elements that were not identified using these as keywords. We also searched Health-evidence.ca (www.health-evidence.ca) using the same set of terms as well as categories related to the features of the options.

The authors' conclusions were extracted from the reviews whenever possible. Some reviews contained no studies despite an exhaustive search (i.e., they were “empty” reviews), while others concluded that there was substantial uncertainty about the option 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

Table 1: Overview of how the elements address the determinants of health

Determinants of health*	Element 1 – Support older adults and their families in ways that support healthy aging	Element 2 – Coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging	Element 3 – Coordinate integrated community resources that are built around the needs of older adults and support healthy aging
<ul style="list-style-type: none"> • Personal health practices and coping 	<ul style="list-style-type: none"> • supporting self-management 		
<ul style="list-style-type: none"> • Health services 			
<ul style="list-style-type: none"> ○ Governance arrangements (e.g., regulatory mechanisms) 		<ul style="list-style-type: none"> • providing a consumer complaints process related to healthcare services 	<ul style="list-style-type: none"> • providing a process to assess consumer satisfaction related to community supports
<ul style="list-style-type: none"> ○ Financial arrangements (financing and funding) 		<ul style="list-style-type: none"> • providing risk-adjusted payment based on best practice outcomes and episode of care • funding customized integrated healthcare service packages 	<ul style="list-style-type: none"> • funding customized community support packages
<ul style="list-style-type: none"> ○ Delivery arrangements 			
<ul style="list-style-type: none"> - Service organization and delivery 	<ul style="list-style-type: none"> • providing general supports • providing specialist outreach services • providing transportation programs that help older adults attend medical appointments 	<ul style="list-style-type: none"> • providing case management as a way of coordinating access to healthcare services and to needed care and supports in other sectors • providing flexible home care supports • providing episodic and respite care • planning for discharge from hospitals • developing an evidence-based toolkit for coordinated assessment of needed care 	<ul style="list-style-type: none"> • having Community Care Access Centres or another organization coordinate access to and delivery of community supports for older adults • developing an evidence-based toolkit that would provide a mechanism for coordinated assessment for community supports
<ul style="list-style-type: none"> - Health human resources 		<ul style="list-style-type: none"> • using multi-disciplinary teams/units that can assess and coordinate the delivery of care • having primary care providers deliver primary care in long-term care institutions 	
<ul style="list-style-type: none"> - Technology (for buildings, see physical environments) 	<ul style="list-style-type: none"> • providing telehealth and e-health • providing electronic health records that are accessible by older adults and/or their families 	<ul style="list-style-type: none"> • providing electronic health records that allow for the efficient coordination of access to and delivery of healthcare services 	<ul style="list-style-type: none"> • providing electronic health records that allow for the efficient coordination of access to and delivery of community supports
<ul style="list-style-type: none"> • Income and social status 	<ul style="list-style-type: none"> • providing income supplements 	<ul style="list-style-type: none"> • providing financial protections to pay for costs associated with long-term care 	
<ul style="list-style-type: none"> • Social support networks 			<ul style="list-style-type: none"> • developing mechanisms to provide additional supports through community resources
<ul style="list-style-type: none"> • Education and literacy 	<ul style="list-style-type: none"> • developing an evidence-based toolkit as a guide about needed care/services • developing decision-aids 		
<ul style="list-style-type: none"> • Employment/working conditions 	<ul style="list-style-type: none"> • providing flexible employment opportunities 		
<ul style="list-style-type: none"> • Social environments 			<ul style="list-style-type: none"> • supporting social engagement • building social capital
<ul style="list-style-type: none"> • Physical environments (housing and accessibility) 	<ul style="list-style-type: none"> • providing stable housing • designing accessible communities 	<ul style="list-style-type: none"> • designing accessible healthcare institutions and transportation systems 	<ul style="list-style-type: none"> • providing supportive housing • designing liveable and accessible communities

* The list was obtained from the Public Health Agency of Canada (<http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php#determinants>). Determinants not included in this list include: 1) biology and genetic endowment; 2) healthy child development; 3) gender; and 4) culture.

Element 1 – Support older adults and their families in ways that support healthy aging

This element is focused on helping older adults and their families make informed decisions, providing supports for self-management, and providing the broader supports that are needed for healthy aging.

Components of this element might include:

- supports for self-management such as:
 - providing self-management supports for older adults to manage specific aspects of their healthcare;
 - building the capacity of older adults and their families and friends to access and understand information to keep healthy;
 - developing an evidence-based toolkit that would provide a guide to older adults and their families about the care and services they need and how to access them;
 - developing decision-aids that support older adults and their families in making informed decisions about the care and supports they need;
 - providing telehealth and e-health more generally;
 - providing electronic health records that are accessible by older adults and/or their families and friends to easily access and manage their health information (e.g., prescription tracking);
 - providing specialist outreach services;
 - providing transportation programs that help older adults attend medical appointments;
- broader supports for older adults and their families, such as:
 - providing income supplements to buy sufficient good food and safe housing (income security);
 - providing flexible employment opportunities for caregivers and older adults;
 - providing stable housing to those who have none; and
 - adapting or designing accessible communities (including public buildings) and transportation systems.

Several high-quality systematic reviews found benefits for: 1) providing self-management supports for older adults to manage specific aspects of their healthcare; 2) providing information to patients and their families at lower reading levels; 3) providing pre-session booklets or visits to increase questioning and a more active role in care; 4) using telehealth to reduce unnecessary hospital visits and service use; 5) providing specialist outreach to improve access to services and outcomes; and 6) supporting flexible employment for caregivers. No reviews were found that addressed transportation programs, income supplements or accessible communities.

A summary of the key findings from the synthesized research evidence is provided in Table 2. Appendix 1 provides a fuller description of the systematic reviews contained in Table 2.

Table 2: Summary of key findings from systematic reviews relevant to Element 1 – Support older adults and their families in ways that support healthy aging†

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> • Providing self-management supports for older adults to manage specific aspects of their healthcare: One recent and high-quality review found self-management programs for older adults with age-related macular degeneration to be effective. Interventions included education programs to improve emotional status, daily living and self-efficacy.(62) One older high-quality review (63) and two older and medium-quality reviews (64;65) assessed interventions for improving the compliance/adherence to medications in older adults, and all found efforts for supporting self-management to be consistently effective. One review found that multifaceted and tailored interventions resulted in the most significant increases in medication compliance rates.(65) • Building the capacity of older adults and their families and friends to access and understand information to keep healthy: A recent and high-quality review found beneficial effects for internet health information classes on technical skills, ability to search for, appraise and use information, and for self-efficacy for internet use, but the review was not focused on older adults (although the results could lend support to these interventions being used by those who support older adults).(66) One

	<p>medium-quality (67) and one low-quality (68) review (both recent) found evidence supporting the need for materials to be written at a lower reading level, and that differences in health literacy levels were consistently associated with increased hospitalizations, greater emergency care use, poorer overall health status and higher mortality.</p> <ul style="list-style-type: none"> • Developing decision-aids that support older adults and their families in making informed decisions about the care and supports they need: One high-quality review found that stimulating the involvement of older adults in their primary care may enhance their health, and a pre-visit booklet and pre-visit session resulted in more questioning behaviour and more self-reported active behaviour.(69) • Providing telehealth and e-health more generally: Two recent high-quality systematic reviews assessing telephone consultation and telehealth programs found them to reduce immediate visits to general practitioners, unnecessary referrals and home visits, and provide better access to services in locations lacking health professionals, as well as that approximately 50% of calls were able to be handled through telephone advice alone.(70;71) Several other high-quality and medium-quality reviews found similar positive effects of telephone consultation on service use, social supports and clinical outcomes.(72-76) Another recent but low-quality review found that telephone support for family caregivers of people with dementia can also reduce caregiver burden and other symptoms of stress.(77) Reviews specifically focused on telehealth for older adults (two were medium-quality and the other was a qualitative synthesis for which there is no quality appraisal available) found reductions in hospitalization, reduced service use, improvements in self-management and increased decision-making confidence.(78-80) • Providing electronic health records that are accessible by older adults and/or their families and friends to easily access and manage their health information: One medium-quality but old review found consistent evidence across all but one of the 16 studies that electronic medical records and hybrid electronic medical records improved provider and patient compliance with health maintenance interventions.(81) • Providing specialist outreach services: One high-quality but older review found that specialist outreach can improve access, outcomes and service use (especially when delivered as part of a multifaceted intervention).(82) Two reviews assessed outreach models for mental health, with one medium-quality but old review finding strong beneficial effects for active-recruitment outreach programs for depressed older adults (83), and another more recent but low-quality review finding that using non-traditional community referral sources (i.e., a ‘gate keeper’ model) is successful at providing access to hard-to-reach individuals, and that home or community-based outreach improved mental health status.(84) • Providing flexible employment opportunities for caregivers and older adults: One medium-quality systematic review of the labour-market choices of unpaid caregivers found that caregivers are likely to work fewer hours in the labour market as compared to non-caregivers (especially if their caregiving commitment is heavy), and withdrawal from the labour market is more likely among those heavily involved with caregiving.(53) One recent overview of systematic reviews (albeit one with no quality appraisals of included reviews) found that organizational changes (e.g., changes to shift work and to health and safety legislation) and psychosocial changes (e.g., increasing employee control) to the work environment generally have beneficial effects on health and health inequalities.(85) Another recent overview of systematic reviews found consistent positive health effects when employees have greater control.(86)
Potential harms	<ul style="list-style-type: none"> • Building the capacity of older adults and their families to access and understand information to keep healthy: One medium-quality review and one low-quality review (both are recent) found evidence supporting the need for materials to be written at a lower reading level, and that differences in health literacy levels were consistently associated with increased hospitalizations, greater emergency care use, poorer overall health status, and higher mortality.(67;68)
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> • Providing telehealth and e-health more generally: One high-quality review of telehealth reported that most studies providing cost data about telehealth found that it is cost saving from a health system perspective, and that the findings were consistent across different types of chronic diseases and mechanisms of delivery.(76)
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> • Uncertainty because no systematic reviews were identified <ul style="list-style-type: none"> ○ Providing transportation programs that help older adults attend medical appointments ○ Providing income supplements to buy sufficient food and safe housing ○ Designing accessible communities and transportation systems: • Uncertainty because no studies were identified despite an exhaustive search as part of a review <ul style="list-style-type: none"> ○ Developing an evidence-based toolkit that would provide a guide to older adults and their families about the care and services they need and how to access them: One medium-quality and older review of decision-support interventions delivered by health or social care providers on the outcomes of older adults facing the possibility of entering long-term residential care found no relevant studies.(87)

	<ul style="list-style-type: none"> • No clear message from studies included in a systematic review <ul style="list-style-type: none"> ○ Providing self-management supports for older adults to manage specific aspects of their healthcare: An older and medium-quality review assessing medication adherence in older adults with multiple co-existing chronic conditions found weak evidence and no clear messages about effectiveness. Interventions for supporting self-management included education, behavioural supports, and pharmacist counselling and follow-up.(88) ○ Providing stable housing to those who have none: A recent overview of systematic reviews found some evidence to suggest that rental assistance interventions that promote mixed housing improve health and health behaviours, but the effects were small and there was limited evidence.(86) An older low-quality systematic review found inconclusive evidence for the effectiveness of family housing subsidies on reducing psychological and physical morbidity.(89)
Key elements of the policy option if it was tried elsewhere	<ul style="list-style-type: none"> • Supports for self-management – General: One older and medium-quality systematic review found two studies evaluating self-medication programs, with both studies finding such programs to be effective. Both programs involved a clinical pharmacist and nurse intervention with the patient before being discharged from hospital, and both used a three-stage approach involving increased levels of independence and with each stage monitored by the clinical pharmacist and nursing staff in order to build complete independence prior to discharge.(64)
Stakeholders' views and experience	<ul style="list-style-type: none"> • Supports for self-management – General: One older and medium-quality systematic review synthesized qualitative evidence about the perceptions of staff-family relationships in the care of older adults, and found six essential factors for the development of constructive staff-family relationships: upholding the patient's uniqueness; assessing and addressing unique family needs; using effective communication skills; implementing a collaborative care process; understanding and addressing interpersonal power issues; and providing organizational support.(90) • Providing telehealth and e-health more generally: Two recent and high-quality reviews found that both patients and providers expressed satisfaction with telephone consultations and telehealth programs.(70;71) Other high-quality and medium-quality reviews similarly found that such consultations and programs are viewed as acceptable, convenient and as a way to increase accessibility of health services.(73;91) Reviews specifically focused on older adults found that telehealth/telehomecare to be associated with improvements in patient satisfaction, empowerment and preparedness for home nursing visits.(79;80)

† We consider a review “recent” if the year of last search is within the past five years, and “older” if the year of last search is more than five years ago. We consider the quality rating of each review as: 0 to 3 (low-quality); 4 to 7 (medium quality); and 8 to 11 (high quality).

Element 2 – Coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging

This element includes: 1) greater coordination and integration of existing healthcare programs to increase the efficiency with which existing healthcare services are used; and 2) creating a single contact and common assessment for access to multiple healthcare services and settings that is based on client need.

Components of this element might include:

- providing case management as a way of coordinating access to healthcare services and to needed care and supports in other sectors (e.g., community programs);
- providing flexible homecare supports that help older adults avoid care in healthcare institutions;
- providing episodic and respite care for older adults to bridge the gap between hospital/institutional and home-based care;
- planning for discharge from hospitals and institutions to home and community settings;
- developing an evidence-based toolkit that would provide a mechanism for coordinated assessment by case managers and healthcare providers (or multidisciplinary teams of providers) to use to develop appropriate packages of care/care pathways for older adults based on their specific needs;
- providing customized integrated healthcare service packages with the mix and number of services determined based on each older adult's specific needs (determined through a coordinated assessment mechanism);
- using multidisciplinary teams or units that can assess and coordinate the delivery of appropriate mixes of healthcare services that meet specific needs of older adults;
- having primary care providers (not just physicians) deliver primary care in long-term care institutions to ensure continuity of services;
- providing electronic health records that allow case managers or CCACs to efficiently coordinate access to healthcare services and to needed care and supports in other sectors (e.g., community programs);
- providing risk adjusted payment based on best practice outcomes and episode of care;
- providing a process to assess consumer satisfaction to allow older adults and their families/friends to bring forward complaints and suggestions related to their healthcare services;
- designing of healthcare institutions and transportation systems that allow for easy access to healthcare services; and
- providing financial protections (e.g., interest-free loans, excluding the values of homes from asset tests or reverse mortgages) for older adults and their families to raise money to pay for costs associated with long-term care.

Several high-quality reviews found benefits for: 1) using home visits to reduce admissions to healthcare institutions; 2) providing end-of-life care in the home; 3) using comprehensive discharge planning to reduce hospital readmissions; 4) providing flexible and responsive respite care for caregivers (albeit limited impacts); 5) using comprehensive geriatric assessment to improve health outcomes; 6) using a primary care staffing model in long-term care settings; 7) using financial incentives for improving process of care and referrals; 8) providing customized rehabilitation and disease management to prevent admissions to long-term care facilities and readmissions to hospital; and 9) using specialized geriatric units to prevent functional decline at discharge. No reviews were found for creating consumer complaints processes, designing accessible healthcare institutions or providing financial protections.

A summary of the key findings from the synthesized research evidence is provided in Table 3. For those who want to know more about the systematic reviews contained in Table 3 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 2.

Table 3: Summary of key findings from systematic reviews relevant to Element 2 – Coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging in the community†

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> • Providing case management as a way of coordinating access to healthcare services and to needed care and supports in other sectors (e.g., community programs): Two medium-quality reviews provide findings to suggest that case management may reduce emergency department visits (92), and that service use in general either remained the same or decreased.(93) One low-quality review of nurse-assisted case management for helping older adults transition to other settings found a reduction in the readmission rates to hospital as well as use of emergency departments.(94) • Providing flexible homecare supports that help older adults avoid care in healthcare institutions: A high-quality but old review found that home visits were associated with a significant reduction in admissions to long-term institutional care and a reduction in mortality, but not a reduction in hospital admissions.(95) Two high-quality reviews (one was older) assessed hospital-at-home interventions and there was no evidence to support it as an intervention as compared to inpatient hospital care for older adults who have had medical procedures, elective surgery or those with terminal illness.(96;97) Another recent high-quality review found that fewer older adults receiving hospital care at home were in residential care at follow-up.(98) However, a high-quality recent review found evidence to support the use of home-based end-of-life care for increasing the number of people who die at home.(99) • Planning for discharge from hospitals and institutions to home and community settings: Several high-quality and recent reviews found that comprehensive discharge planning and ensuring continuity of interventions across the hospital community interface were effective at reducing risk of readmission.(98;100;101) However, these reviews also found no significant effects on reducing mortality.(98;100;101) A recent medium-quality review also found that early comprehensive discharge planning resulted in patients reporting that they had adequate information, had less concerns about managing their care, and had a good understanding of their medications and key risks to monitor that would indicate a possible complication.(102) • Providing episodic and respite care for older adults to bridge the gap between hospital/institutional and home-based care: Three reviews assessing the effects of respite care all found a small but positive effect on caregiver burden, but that the evidence was weak.(103-105) The most recent and high-quality review suggested that providing a range of services and ensuring they are flexible and responsive to carer and care recipient needs are likely to be most effective.(105) Several reviews assessed different models of episodic care with one high-quality older review finding that complex community-based supports reduced the risk of older adults not living at home being admitted to nursing homes and hospital, and falls, as well as increasing physical function.(106) The review also found that for populations with increased death rates, the community-based interventions were associated with reduced nursing home admissions.(106) Another older medium-quality review found some evidence for beneficial effects of aftercare for frail older adults with chronic conditions when discharged from hospital.(107) • Providing electronic health records that are accessible by older adults and/or their families to easily access and manage their health information: One medium-quality but old review found consistent evidence across all but one of the 16 studies that electronic medical records and hybrid electronic medical records improved provider and patient compliance with health maintenance interventions.(81) • Developing an evidence-based toolkit that would provide a mechanism for coordinated assessment by case managers and healthcare providers (or multidisciplinary teams of providers) to use to develop appropriate packages of care/care pathways for older adults based on their specific needs: A recent and high-quality review assessed the effectiveness of comprehensive geriatric assessment (a simultaneous, multi-level, multidisciplinary assessment approach to ensure problems are identified, quantified and managed appropriately) and found significant improvement in health outcomes while remaining at home.(108) Similarly, a recent medium-quality review found a gerontologically informed nursing assessment to reduce post-intervention hospital admissions, emergency department visits, hospital days, nursing home admissions, community agency referrals and a long-term reduction in the hospital admissions.(109) • Having primary care providers (not just physicians) deliver primary care in long-term care institutions to ensure continuity of services: A recent high-quality review assessing the effects of a primary care staffing model found moderate improvements in resident well-being and behaviour (based on standardized measures of resident’s goals and agitation).(110) • Providing risk-adjusted payment based on best practice outcomes and episode of care: A recent overview of systematic reviews on financial incentives on healthcare professional behaviour and patient outcomes, which included two high- and two medium-quality reviews, found that such

	<p>payments were generally effective for improving process of care and improving referrals and admissions, but generally ineffective at improving adherence to guidelines.(111)</p> <ul style="list-style-type: none"> • Providing customized integrated healthcare service packages with the mix and number of services determined based on each older adult’s specific needs (determined through a coordinated assessment mechanism): A recent high-quality review found that inpatient rehabilitation specifically designed for geriatric patients has beneficial effects (as compared to usual care) for functional improvement, preventing admissions to nursing homes, and reducing mortality.(112) Similarly, another high-quality but older review found that disease management programs are effective at reducing hospital re-admissions in older adults with heart failure.(113) Another medium-quality review suggests that using comprehensive geriatric assessment to determine the mix of programs that help to link the evaluation with supports needed for long-term management are effective for improving older adults’ survival and functioning.(114) • Using multidisciplinary teams or units that can assess and coordinate the delivery of appropriate mixes of healthcare services that meet specific needs of older adults: A recent high-quality review on specialized acute geriatric units found a lower risk of functional decline at discharge as compared to those admitted to conventional care units.(115) Similarly, a recent medium-quality review found that multidisciplinary teams in specialized units found significant improvements for inpatient geriatric care.(102) Another recent medium-quality review assessing the treatment of depression in older adults found that collaborative care increased the likelihood of receiving treatment during each follow-up period, and resulted in lower levels of depression symptoms and thoughts of suicide in the long term.(116)
<p>Potential harms</p>	<ul style="list-style-type: none"> • None identified
<p>Costs and/or cost-effectiveness in relation to the status quo</p>	<ul style="list-style-type: none"> • Providing case management as a way of coordinating access to healthcare services and to needed care and supports in other sectors (e.g., community programs): A recent medium-quality review found that patient advocacy case management led to cost savings, and a low-quality and older review found three studies reporting on costs of case management that all found non-significant cost-savings.(117) • Providing flexible homecare supports that help older adults avoid care in healthcare institutions: A high-quality recent review found two full economic evaluations of hospital care at home and found that it was less expensive than admission to an acute hospital ward when the costs of informal care were excluded.(97) • Providing episodic and respite care for older adults to bridge the gap between hospital/institutional and home-based care: One high-quality older review stated that no conclusions regarding the cost-effectiveness of respite care could be made.(104) A medium-quality review of medical day hospitals for older adults found it to be more expensive as compared to regular hospital care.(118) • Planning for discharge from hospitals and institutions to home and community settings: A recent high-quality review on discharge planning for patients moving from hospital to home and community settings found little evidence on overall healthcare costs.(101) • Using multidisciplinary teams or units that can assess and coordinate the delivery of appropriate mixes of healthcare services that meet specific needs of older adults: A low-quality review evaluating the effectiveness of geriatric evaluation and management units for frail older adults suggests that the overall cost was neutral as compared to that of usual care.(119) A medium-quality review of interprofessional collaboration in Canadian primary healthcare found cost benefits in some healthcare settings (e.g., through decreases in average provider and patient costs for blood pressure control, and lower readmission rates and costs for team-managed, home-based primary care).(120) • Providing risk adjusted payment based on best practice outcomes and episode of care: An overview of systematic reviews found that financial incentives for healthcare professionals were generally effective at improving prescribing cost outcomes.(111)
<p>Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)</p>	<ul style="list-style-type: none"> • Uncertainty because no systematic reviews were identified <ul style="list-style-type: none"> ○ Providing a process to assess consumer satisfaction to allow older adults and their families/friends to bring forward complaints and suggestions related to their healthcare services ○ Designing of healthcare institutions and transportation systems that allow for easy access to healthcare services ○ Providing financial protections (e.g., interest-free loans, excluding the values of homes from asset tests or reverse mortgages) for older adults and their families to raise money to pay for costs associated with long-term care • Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review <ul style="list-style-type: none"> ○ Providing customized integrated healthcare service packages with the mix and number of services determined based on each older adult’s specific needs (determined through a coordinated assessment mechanism): A recent medium-quality systematic review assessing the

	<p>effects of end-of-life care pathways compared with no care pathways found no studies meeting the eligibility criteria.(121)</p> <ul style="list-style-type: none"> • No clear message from studies included in a systematic review <ul style="list-style-type: none"> ○ Providing flexible home care supports that help older adults avoid care in healthcare institutions: Several reviews assessed the effects of home visiting programs and the most recent and highest quality review found that intensive home visiting programs for older adults had no favourable effects on a range of outcomes, including mortality, health status, social functioning, hospital admission and nursing home admission.(122) Similarly, another high-quality but older review concluded that there is no clear evidence in favour of the effectiveness of preventive home visits for older adults.(123) In addition, one medium-quality older review found that home rehabilitation did not result in significant improvements in activities of daily living, depression and quality of life (124), and another medium-quality but recent review found insufficient evidence to compare the effects of care homes to hospital environments or own-home environments for rehabilitation outcomes.(125) ○ Providing customized integrated healthcare service packages with the mix and number of services determined based on each older adult’s specific needs (determined through a coordinated assessment mechanism): A recent medium-quality review found limited evidence to support the effectiveness of multi-factorial prevention programs in primary care, community or emergency settings for reducing the number of falls or fall-related injuries.(126)
<p>Key elements of the policy option if it was tried elsewhere</p>	<ul style="list-style-type: none"> • Providing case management as a way of coordinating access to healthcare services and to needed care and supports in other sectors (e.g., community programs): A low-quality and older review found that the successful case management programs targeted specific disease conditions with care supervision from a medical subspecialist.(117) • Providing flexible home care supports that help older adults avoid care in healthcare institutions: A recent medium-quality review of nurse home visiting found that the components associated with favourable disability outcomes in older adults include providing multiple home visits, geriatric training and experience of the provider, collaboration among health providers, and multidimensional assessment.(127) Lack of process measures, physician collaboration, training and disability-specific components of home visits were associated with ineffective interventions.(127) • Providing episodic and respite care for older adults to bridge the gap between hospital/institutional and home-based care: One high-quality older review found high levels of satisfaction with respite programs.(104) • Planning for discharge from hospitals and institutions to home and community settings: A high-quality review of hospital discharge processes found that the effects on risk of readmission were most beneficial when the interventions were provided by a single professional rather than a team, and when interventions continued to be provided in the patient’s home.(100) • Developing an evidence-based toolkit that would provide a mechanism for coordinated assessment by case managers and healthcare providers (or multidisciplinary teams of providers) to use to develop appropriate packages of care/care pathways for older adults based on their specific needs: A recent and high-quality review found that an important element of success for comprehensive geriatric assessment is specialization within the ward and a ward environment that promotes patient independence.(108) • Using multidisciplinary teams or units that can assess and coordinate the delivery of appropriate mixes of healthcare services that meet specific needs of older adults: A recent high-quality review of multidisciplinary rehabilitation for older adults with hip fracture found that programs using a home-based group had shorter hospital stays, but longer periods of rehabilitation, suggesting the need for additional caregiving as part of multidisciplinary rehabilitation.(115)
<p>Stakeholders’ views and experience</p>	<ul style="list-style-type: none"> • Providing flexible home care supports that help older adults avoid care in healthcare institutions: A high-quality but old review of hospital at home services found that patients who were discharged early to hospital at home had greater satisfaction with care as compared to those who stayed in hospital, but carers expressed less satisfaction with hospital at home.(96) • Planning for discharge from hospitals and institutions to home and community settings: One recent and high-quality review assessing early discharge with hospital at home found increased patient satisfaction,(98) and another medium-quality review found discharge planning to significantly increase patient satisfaction.(128) • Having primary care providers (not just physicians) deliver primary care in long-term care institutions to ensure continuity of services: A recent high-quality review assessing the effects of a primary care staffing model found that nursing staff favoured the primary care model (as compared to usual care), but another study in the review found limited uptake of the model.(110)

† We consider a review “recent” if the year of last search is within the past five years, and “older” if the year of last search is more than five years ago. We consider the quality rating of each review as: 0 to 3 (low-quality); 4 to 7 (medium quality); and 8 to 11 (high quality).

Element 3 – Coordinate integrated community resources that are built around the needs of older adults and support healthy aging

This element includes: 1) greater coordination and integration of existing community support programs and to increase the efficiency with which existing community programs are used; and 2) creating a single contact and common assessment for entry into community programs that support aging in the community (as opposed to the current fragmented delivery system for community-based supports).

Components of this element might include:

- having CCACs or another organization (in collaboration with case managers) coordinate access to and delivery of community supports for older adults;
- providing electronic health records that allow CCACs (in collaboration with case managers) to efficiently coordinate access to and delivery of community supports for older adults;
- developing an evidence-based toolkit that would provide a mechanism for coordinated assessment for CCACs to use to develop appropriate packages of community support/pathways of support programs for older adults based on their specific needs (and that would supplement their work providing access to home care and institutional care);
- providing customized community support packages comprising a mix of services that are determined based on each older adult’s specific needs (determined through a coordinated assessment mechanism);
- providing a process to assess consumer satisfaction to allow older adults and their families and friends to bring forward complaints and suggestions related to their community supports;
- providing additional supports through community resources (when friends and family are not available);
- supporting social engagement and civic participation (e.g., creating opportunities for and promoting volunteer engagement);
- building social capital (including recognition of diversity) within communities;
- designing liveable and accessible communities (including public buildings) and transportation systems; and
- providing supportive housing to those who need it.

High-quality reviews found benefits for using case management models to support integrated community and homecare programs and discharge to the community, and medium-quality reviews found benefits for using electronic medical records and encouraging physical activity. No reviews were found that assessed the benefits of designing evidence-based toolkits, customized community supports, consumer complaints processes, social capital enhancements and accessible communities.

A summary of the key findings from the synthesized research evidence is provided in Table 4. For those who want to know more about the systematic reviews contained in Table 4 (or obtain citations for the reviews), a fuller description of the systematic reviews is provided in Appendix 3.

Table 4: Summary of key findings from systematic reviews relevant to Element 3 – Coordinate integrated community resources that are built around the needs of older adults and support healthy aging†

Category of finding	Summary of key findings
Benefits	<ul style="list-style-type: none"> • Having CCACs or another organization (in collaboration with case managers) coordinate access to and delivery of community supports for older adults: A high-quality but older review found evidence that supports the effectiveness of various case management models (an integrated community care program, case managers for patients discharged from hospital, case managers guiding integrated homecare programs, post-acute care program, short-term case management delivered by an advanced practice nurse).(129) • Providing electronic health records that are accessible by older adults and/or their families to easily access and manage their health information: One medium-quality but old review found consistent evidence across all but one of the 16 studies that electronic medical records and hybrid

	<p>electronic medical records improved provider and patient compliance with health maintenance interventions.(81)</p> <ul style="list-style-type: none"> • Providing additional supports through community resources (when friends and family are not available): A recent medium-quality review assessed the impact of providing physical activity as a community support and found that exercise programs have a positive effect on activities of daily living and instrumental activities of daily living for frail older adults.(130)
Potential harms	<ul style="list-style-type: none"> • None identified
Costs and/or cost-effectiveness in relation to the status quo	<ul style="list-style-type: none"> • Mechanisms to provide additional supports through community resources (when friends and family are not available): A high-quality older review suggested that paid personal assistance likely substitutes for informal unpaid care and may result in increased costs (but the total costs to recipients, their families and society are unknown).(131)
Uncertainty regarding benefits and potential harms (so monitoring and evaluation could be warranted if the option were pursued)	<ul style="list-style-type: none"> • Uncertainty because no systematic reviews were identified <ul style="list-style-type: none"> ○ Developing an evidence-based toolkit that would provide a mechanism for coordinated assessment for CCACs to use to develop appropriate packages of community support/pathways of support programs for older adults based on their specific needs (and that would supplement their work providing access to home care and institutional care) ○ Providing customized community support packages comprising a mix of services that are determined based on each older adult's specific needs (determined through a coordinated assessment mechanism): While not directly addressing this element, a recent medium-quality review found that multifaceted programs that encompass a wide range of intervention found significant reductions in the number of recurrent fallers, falls, the number fallers in general and the number of injurious falls.(132) ○ Providing a process to assess consumer satisfaction to allow older adults and their families/friends to bring forward complaints and suggestions related to their community supports ○ Building social capital (including recognition of diversity) within communities ○ Designing liveable and accessible communities (including public buildings) and transportation systems • Uncertainty because no studies were identified despite an exhaustive search as part of a systematic review <ul style="list-style-type: none"> ○ Not applicable • No clear message from studies included in a systematic review <ul style="list-style-type: none"> ○ Supporting social engagement and civic participation: An older low-quality review assessed the mechanisms by which social supports improve health outcomes and found some support for the overall usefulness of social support interventions, which included group versus individual interventions, professionally led versus peer-provided treatment, and interventions designed to increase network size and perceived support. However, the review concluded that there is insufficient evidence to identify which interventions work best for specific problems.(133) ○ Providing supportive housing to those who need it: A recent overview of systematic reviews found some evidence to suggest that rental assistance interventions that promote mixed housing improve health and health behaviours, but the effects were small and there was limited evidence.(86) An older low-quality systematic review found inconclusive evidence for the effectiveness of family housing subsidies on reducing psychological and physical morbidity.(89) ○ Providing additional supports through community resources (when friends and family are not available): Three high-quality reviews found benefits for home visiting programs. The most recent review found evidence to suggest that multidimensional preventive home visits have the potential to reduce disability burden among older adults with multiple co-existing risk factors.(134) The older reviews found that preventive home visits were generally effective at reducing admissions to long-term care and nursing homes and improving functional status decline.(135;136) One high-quality but older review (122) found no significant favourable effects of preventive home visits on outcomes ranging from mortality to nursing home admission, and another high-quality but older review similarly found no clear evidence to support preventive home visits.(123)
Key elements of the policy option if it was tried elsewhere	<ul style="list-style-type: none"> • Mechanisms to provide additional supports through community resources (when friends and family are not available): An older but high-quality review found that centre-based physical activity programs were superior to home-based programs for patients with vascular disease, but home-based programs were superior for those with chronic obstructive pulmonary disease as they achieved higher rates of long-term adherence.(130)
Stakeholders' views and experience	<ul style="list-style-type: none"> • Mechanisms to provide additional supports through community resources (when friends and family are not available): A high-quality older review found that personal assistance was generally preferred over usual care by older adults with impairments, in nursing homes and receiving 'cluster care' (providing services to people living in close proximity).(131) • Building social capital (including recognition of diversity) within communities: A review of

	<p>qualitative studies about what people value when providing unpaid care for an older adult found six attributes of the caring process: care-recipient relationship (e.g., feelings such as love, friendship and reciprocity), institutional support (e.g., respite care and time off work), informal support (e.g., emotional support the carer receives from family, friends and neighbours), activities outside caring (i.e., engagement outside of the caring role), control (e.g., ability to manage caring duties), and duty (e.g., perception of whether they are fulfilling a duty by providing care).(137)</p>
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† We consider a review “recent” if the year of last search is within the past five years, and “older” if the year of last search is more than five years ago. We consider the quality rating of each review as: 0 to 3 (low-quality); 4 to 7 (medium quality); and 8 to 11 (high quality).

Additional equity-related observations about the three elements

Many of the systematic reviews either focused on or provided findings specifically related to the frail elderly, but minimal evidence was provided about older adults of low socioeconomic status. Key observations include that the frail elderly typically require a wide range and complex set of healthcare and community supports as they often have multiple chronic conditions, dementia and/or Alzheimers. This has implications for many of the components of each element. For instance, as part of the first element, supporting self-management likely requires more intensive support from caregivers and greater use of supports such as transportation programs (given the frail elderly’s increased use of healthcare services and social supports). Similarly, as part of the second element, the frail elderly would likely require more support through case managers to coordinate access to needed healthcare services, home care, episodic and respite care (especially given the more intensive role for caregivers) and may be more likely to access financial supports to help pay for the additional services they require. Lastly, as part of the third element, the frail elderly will similarly require more support from CCACs for coordinating the additional community supports they need, and will likely need to make use of more community supports (as compared to the non-frail elderly) to be able to stay in the community for as long as possible.

IMPLEMENTATION CONSIDERATIONS

In considering what challenges may be faced in trying to pursue one or more of the elements of an approach to organizing a care system for older adults in Ontario – or which may surface later – it is helpful to consider these difficulties in relation to four levels: patient/citizen, service providers, organizations and systems. A list of potential barriers to implementing the options is provided in Table 5. We found few empirical studies that helped to identify or establish the importance of these barriers so we have listed those that were identified in a range of sources (not just empirical studies) and we have not rank ordered them in any way.

Table 5: Potential barriers to implementing the elements

Levels	Element 1 – Support older adults and their families in ways that support healthy aging	Element 2 – Coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging	Element 3 – Coordinate integrated community resources that are built around the needs of older adults and support healthy aging
Patient/citizen	Older adults and their families may be not be willing to or interested in taking an active self-management role in their care	Older adults and their families and friends may be hesitant to use a consumer comment/input process if they feel it may limit their ability to receive care in the future	Older adults and their families and friends may be hesitant to use a consumer complaints process if they feel it may limit their ability to receive care in the future
Service provider	Providers may be hesitant to provide patients and their families with full access to their electronic medical records Providers may be unwilling or hesitant to fully support a model of self-management or shared decision-making Specialist physicians may be unwilling or unable to provide outreach services	Providers may not accept the implementation of a new system of remuneration Primary care providers may resist a requirement for providing care in different settings (e.g., long-term care homes) Providers may not consistently use an evidence-based toolkit Providers may resist a consumer comment/input process due to concerns about the additional resources required (especially for solo practitioners) and about how to deal with comments	Providing a wide range of community supports requires coordination between many types of providers, which may be difficult to implement
Organization	Organizations may be hesitant to provide patients with full access to their electronic health records Hospitals may be unwilling to allow specialists to take time away for outreach to underserved areas	Organizations may resist a consumer comment/input process due to concerns about the additional resources required to implement a system, and about how to deal with comments when they arise	Organizations may not use an evidence-based toolkit
System	Full implementation requires coordination and consensus between multiple sectors (e.g., healthcare and housing) and levels of government (e.g., provincial and municipal decision-makers) Broader supports may require additional investment, which may not be popular during a period of recession and fiscal constraint	Full implementation requires coordination and consensus between multiple sectors (e.g., healthcare and housing) and levels of government (e.g., provincial and municipal decision-makers) The adoption and implementation of electronic health records may be inconsistent across the relevant stakeholders involved in a care system for older adults	Full implementation requires coordination and consensus between multiple sectors (e.g., healthcare and housing) and levels of government (e.g., provincial and municipal decision-makers) The adoption and implementation of electronic health records may be inconsistent across the relevant stakeholders involved in a care system for older adults

		Larger projects such as the design of healthcare institutions and transportation systems as well as providing financial protections may require additional investment, which may not be achievable during a period of recession and fiscal constraint	Larger projects such as designing liveable and accessible communities and providing supportive housing may require additional investment, which may not be achievable during a period of recession and fiscal constraint
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The implementation of a care system for older adults, particularly one that provides a comprehensive and integrated continuum of care, requires a number of these barriers to be addressed. As outlined in the table above, all three of the elements require emphasis on coordination and consensus building between multiple sectors and levels of government, as well as having providers and organizations modify existing roles and/or expanding their typical scope of activities. However, there are some existing initiatives that can be used as ‘models’ for overcoming many of the barriers identified. For instance, the Program of Research to Integrate Services for the Maintenance of Autonomy (PRISMA) is a model of coordination-based integrated care for frail people in Quebec, Canada.(138;139) The PRISMA model is unique in that it draws on the public and an array of private and voluntary health and social service organizations involved in caring for older people in a given area. Each organization keeps its own structure, but is included within an ‘umbrella system’, which requires that it adapt its operations and resources to fit the agreed upon requirements and processes within the system. As Hébert et al. note, the “...system is not just nested in the health care and social services system (like the full integration models): it is embedded within it.”

The PRISMA system is similar to many features of the elements presented in this brief as it includes: “a) coordination between decision makers and managers at the regional and local levels, b) single entry point, c) single assessment instrument coupled with case-mix management system, d) case management, e) individualized service plans, and f) computerized clinical chart.”(139) During a four-year quasi-experimental study, the PRISMA system reached 70% implementation in the three study regions in Quebec, Canada, and several positive results were found, including a reduction in the prevalence and incidence rates of functional decline, a reduction in the proportion of people with unmet needs, improvements in patient satisfaction and empowerment, and stabilization of emergency room use.(139) In addition, a randomized controlled trial evaluating a similar integrated care system for older adults in Quebec, Canada, also found promising results (increased accessibility for health and social home care, 50% reduction in alternate level inpatient stays, increased satisfaction among caregivers and no increase in out-of-pocket costs) and no difference in total overall costs per person.(140) These promising innovations for providing integrated care systems for older adults in Quebec offer important learning opportunities for stakeholders in Ontario to determine how to move forward with implementing a similar type of care system.

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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 option element (first column). The focus of the review is described in the second column. Key findings from the review that relate to the option 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 Ontario, while the second-from-last column comments on 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 aging.

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 1: Systematic reviews relevant to Option 1 - Support older adults in ways that support healthy aging

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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
Supporting self-management	Review of the effectiveness of education programs to improve emotional status, daily living and self-efficacy in elderly with age-related macular degeneration (AMD) (62)	<p>Reviewing three protocols in four studies and three follow-up studies, it was found that self-management programs appear effective for older adults with AMD</p> <p>Small sample size, use of non-traditional statistics and methodological quality meant only a narrative analysis was possible, therefore future studies with more robust methodology are still required.</p>	2006	8/10 (AMSTAR rating from Program in Policy Decision-making)	0/4	57/57	Not reported
	Evaluation of the effects of reminder packaging to enhance patient adherence with self-administered medications (63)	<p>Interventions required a reminder system for the day of the week or the time that the medication was to be taken, and it had to form part of the packaging</p> <p>Results indicated a significant improvement in patient adherence to medications when using the intervention, however these improvements are larger than those seen on clinical outcomes as modest changes in adherence may not have clear clinical affects.</p>	2004	10/11 (AMSTAR rating from www.rxforchange.ca)	0/8	14/14	Not reported
	Review of interventions and outcomes of medication compliance studies in older adults (64)	<p>Interventions included counselling, education, self-medication programs, cues and organizers, and decreasing dosing frequency</p> <p>31 of 57 studies reported</p>	2004	4/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	57/57	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		significantly greater medication compliance in treatment subjects versus control subjects.					
	Review of interventions to improve compliance with medication regimens in older patients living in the community (65)	Differences in medication compliance were in favour of the intervention group in less than half of the comparisons, however multifaceted interventions and tailored interventions seemed to result more often in differences in compliance rates in older adults in favour of the intervention group	2001	6/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	14/14	0/32
	Review of interventions to improve medication adherence in people with multiple co-existing chronic conditions (88)	<p>Studies examined medication adherence in the elderly with multiple chronic conditions, and were focused on the management of polypharmacy and reducing costs</p> <p>Interventions included educational and behavioural interventions including pharmacist counselling and follow up, improved education and custom medication packaging.</p> <p>Evidence for effective interventions to enhance medication adherence in multiple chronic conditions was weak and in need of further investigation</p>	2007	6/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail	4/8	Not reported
	Review of the perceptions of staff-family relationships, the	Evidence from this study isolates six factors as being	2005	4/9 (AMSTAR rating from Program	3/32	32/32	Not available

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	characteristics of constructive relationships and effective practices in developing constructive relationships between family and staff in improving health outcomes of older people (90)	essential to the development of constructive staff-family relationships: upholding the patient's uniqueness; assessing and addressing unique family needs; using effective communication skills; implementing a collaborative care process; understanding and addressing interpersonal power issues; and providing organizational support		in Policy Decision-making)			
	Assessment of the effects of interventions in primary medical care that improve the involvement of older patients in their health care (69)	Stimulating the involvement of older patients in their primary care may enhance their health. Interventions of a pre-visit booklet and a pre-visit session (either combined or pre-visit session alone) led to more questioning behaviour by older people and more self-reported active behaviour.	2004	10/11 (AMSTAR rating from Program in Policy Decision-making)	0/3	3/3	Not reported
Building the capacity of older adults	Integrated review of what testing of health literacy interventions have been done, what low health literacy interventions are most frequently tested and which have been found to be most and least effective in assisting the person with low health literacy.(68)	This study suggests that health literacy is an important factor in determining who would benefit most from management interventions for diabetes and HIV/AIDS. This review indicates that the written materials involved in interventions need to be written at a lower reading level and in plain English.	2006	2/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	0/16	0/16
	A review of health care service use and health outcomes related to differences in health literacy	Differences in health literacy level were consistently associated with increased hospitalizations, greater	2010	6/9 (AMSTAR rating from Program in Policy Decision-making)	1/81	7/81	1/81 (one study examined whether health literacy

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	level and interventions designed to improve these outcomes for individuals with low health literacy, as well as the disparities in health outcomes and effectiveness of interventions among different sociodemographic groups (67)	emergency care use, lower use of mammography, lower receipt of influenza vaccine, poorer ability to demonstrate taking medications appropriately, poorer ability to interpret labels and health messages, and, among seniors, poorer overall health status and higher mortality.					moderates the effect between race/ethnicity and health outcomes)
	Appraisal of interventions for enhancing consumers' online health literacy (66)	Studies showed significant beneficial effects of the intervention on five outcomes: technical internet/computer skills, ability to search for online health information, ability to evaluate/appraise online health information, ability to apply (use) health information to address health problems and self-efficacy for internet use and health information seeking. The ability to draw conclusions from this evidence is limited as only two studies matched the inclusion criteria.	2008	10/11 (AMSTAR rating from Program in Policy Decision-making)	0/2	0/2	0/2
	Review of how nurses can support patient autonomy (141)	Theories fitting negative freedom are those defining autonomy as self-governance and self-care Theories fitting positive freedom are those focusing on autonomy in caring, and as identification, communication and goal achievement	2005	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail - Description states: UK; Germany; Netherlands	Not applicable	Not applicable

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		To achieve autonomy, patients prefer a mixed approach that combines features of negative and positive freedom.					
Evidence-based tool kit	Assessment of various decision-support interventions delivered by health or social care providers on the outcomes of older people facing the possibility of entering long-term residential care(87)	No studies were identified under the inclusion criteria which is hypothesized to potentially reflect the perception that moving to residential care is a routine and inevitable outcome for older people who have care needs, or the perception that older people are passive players in this rather than active ones capable of making decisions about how or whether they have their perceived care needs met	2005	4/5 (AMSTAR rating from Program in Policy Decision-making)	Not applicable (no studies included in the review)	Not applicable (no studies included in the review)	Not applicable (no studies included in the review)
Decision aids	Assessment of the effects of interventions in primary medical care that improve the involvement of older patients in their health care (69)	Stimulating the involvement of older patients in their primary care may enhance their health. Interventions of a pre-visit booklet and a pre-visit session (either combined or pre-visit session alone) led to more questioning behaviour by older people and more self-reported active behaviour.	2004	10/11 (AMSTAR rating from Program in Policy Decision-making)	0/3	3/3	Not reported
	Assessment of various decision-support interventions delivered by health or social care providers on the outcomes of older people facing the possibility of entering long-term residential care (87)	No studies were identified under the inclusion criteria which is hypothesized to potentially reflect the perception that moving to residential care is a routine and inevitable outcome for older people who have care needs, or the perception that older people are passive players in this rather	2005	4/5 (AMSTAR rating from Program in Policy Decision-making)	Not applicable (no studies included in the review)	Not applicable (no studies included in the review)	Not applicable (no studies included in the review)

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		than active ones capable of making decisions about how or whether they have their perceived care needs met					
Telehealth and e-health more generally	A comparison of different modes of telehealth service delivery in benefitting elderly patients (78)	<p>Interventions included information and support systems, vital signs monitoring, and home safety alert systems.</p> <p>Most studies found that home-based telecare interventions were at least as efficient as conventional care and may reduce the use of health services by people with heart failure or COPD.</p> <p>The most effective telecare interventions appear to be automated vital signs monitoring (for reducing health service use) and telephone follow-up by nurses (for improving clinical indicators and reducing health service use).</p>	2006	5/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail - Description states: USA; UK	Not reported	7/98
	Assessment of the computer telephony system (CTS)-based medical interventions (72)	<p>Interventions included automated CTS controlled by either touch tone or voice while excluding computer-assisted telephone interviewing, and applications in clinical research and medical education.</p> <p>Three of the four trials found improved public health clinic show rates when using a CTS, with one trial showing no effect.</p>	2003	5/10 AMSTAR rating from Program in Policy Decision-making)	Not reported in detail - Description states: USA	2/20	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		One small trial found better adherence to medication in seniors when using a CTS, and this result was consistent with findings regarding adherence to other medication regimes.					
	A summary of the published empirical evidence on the effects of telehomecare on older adult patients with chronic illness(79)	<p>Interventions focused on telehealth technology with peripheral medical devices (telehomecare in addition to in-person visits), and studies that evaluated only telephone or did not involve video or in-person nurse contact were excluded.</p> <p>Studies found that telehomecare was associated with improvements in patient satisfaction, empowerment, remembering to prepare for the nurse's visit and security, pain and anxiety.</p> <p>Studies reported that telehomecare was associated with reductions in hospitalization rates and improvements in self-management, general health and rates of discharge to home.</p>	2005	No rating tool available for this type of synthesis	Not reported in detail - Description states: USA	Not reported	Not reported
	Assessment of telemedicine services that substitute for face-to-face medical diagnosis and treatment (142)	<p>Interventions focused on telemedicine services that would substitute for face-to-face medical diagnosis and treatment.</p> <p>Studies found multifaceted interventions demonstrated</p>	2004	5/10 AMSTAR rating from Program in Policy Decision-making)	Not reported	4/97	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>more benefit than single interventions, however, in most studies, it was not possible to assess whether improved outcomes were due to the increased level of care provided by dedicated clinical staff or to the telemedicine intervention.</p>					
	<p>A review of telehealth interventions in clinical nursing for elders (80)</p>	<p>Included studies focused on nursing interventions using interactive computer or communications technology including consultation, self-esteem enhancement or mood management, assessment of conditions, wound management and social support.</p> <p>This review reported that access to computer networks had a generally positive perception from those using it, and increased decision-making confidence, but not decision-making skills. There were, however, methodological limitations to most of the included studies that may have compromised results.</p>	<p>2001</p>	<p>4/10 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>Not reported</p>	<p>8/8</p>	<p>Not reported</p>
	<p>Evaluation of the role of cell phones and text messaging interventions in improving health outcomes and processes of care (143)</p>	<p>Text messaging was associated with fewer days to diagnosis (one study) and improved communication in participants with disabilities (one study).</p> <p>Studies on smoking cessation and medication adherence reported that voice or SMS educational intervention groups</p>	<p>2008</p>	<p>2/9 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>0/25</p>	<p>Not reported</p>	<p>Not reported</p>

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>were associated with significantly greater success in behaviour modification than control groups</p> <p>Studies reported significant improvements in diabetes, obesity and hypertension-related health outcomes with diabetes control and management information, and education messages delivered via cell phone.</p>					
	<p>Review of the impact of automated computer-based telephone messaging technology upon health outcomes, cost savings and acceptance by patients, caregivers and care providers (75)</p>	<p>Interventions included automated computer-based telephone technology for delivering health care information, advice or reminders on preventive care education and the management of chronic conditions to patients</p> <p>Most studies (more than 80%) found that the use of automated computer-based telephone technology significantly improved health outcomes.</p>	<p>2000</p>	<p>4/10 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>Not reported</p>	<p>5/16</p>	<p>Not reported</p>
	<p>Assessment of follow-up telephone calls in the first month post discharge, initiated by hospital-based health professionals, to patients discharged from hospital to home (144)</p>	<p>There was inconclusive evidence about the effects of TFU due to a large variety in the ways the TFU was performed (the health professionals who undertook the TFU, frequency, structure, duration, etc.) and outcomes measured.</p>	<p>1999</p>	<p>9/11 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>Not reported in detail (description states that one study from Canada was included)</p>	<p>Not reported</p>	<p>Not reported</p>
	<p>Evaluation of the clinical</p>	<p>ICT applications did not show</p>	<p>2005</p>	<p>2/9 (AMSTAR</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	effectiveness of interventions using information and communication technologies (ICTs) for managing and controlling chronic diseases (74)	<p>an improvement in clinical outcomes (except in CVD patients), although no adverse effects were identified.</p> <p>Studies showed systems for improving education and social support were shown to be effective</p>		rating from Program in Policy Decision-making)		(but 24 studies were included)	(but 24 studies were included)
	Evaluation of home telehealth in providing health care services to aging patients with multiple chronic conditions and limited access to services (76)	This review shows that home telehealth is clinically effective and can reduce health services use, while being cost saving from a health system perspective	Not reported	9/10 (AMSTAR rating from Program in Policy Decision-making)	5/72	Not reported	Not reported
	Assessment of telemedicine as an alternative to face-to-face patient care (73)	<p>The review found studies showing various forms of telemedicine are feasible, but there is not yet enough evidence to show the effects on health outcomes or costs of many expensive uses of technology.</p> <p>Review found that people self-monitoring at home or having video consultations were satisfied with their experience.</p>	1999	10/10 (AMSTAR rating from Program in Policy Decision-making)	1/7	Not reported	Not reported
	Review of the impact of asynchronous telehealth on health outcomes, process of care, access to health services, and health resources (71)	<p>Review found that asynchronous telehealth has demonstrated shorter wait times, fewer unnecessary referrals, high levels of patient and provider satisfaction, better diagnostic accuracy, and better access to services in locations that lack health professionals.</p> <p>Cost savings were associated</p>	2006	9/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail - Description states: USA (22); UK (15); Italy (3); Netherlands (2); Canada (1)	Not reported	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		with a decrease in patient travel expenses, lost time from work, or caregiver reimbursement.					
	Review of patient satisfaction with teleconsultation, specifically clinical consultations between healthcare providers and patients involving real time interactive video (145)	Interventions included teleconsultations between healthcare providers (from any discipline) and patients that involved the use of real time interactive video. Patients generally found teleconsultations acceptable, noting definite advantages, particularly increased accessibility of specialist expertise, less travel required, and reduced waiting times with only minor criticisms regarding the communications.	1998	4/11 (AMSTAR rating from Program in Policy Decision-making)	2 / 32	Not reported	Not reported
	Summary of the evidence evaluating the role of telephones in helping to deliver clinical care (91)	Advantages of telephone consultation include increased speed, improved access, convenience to patients, and possible cost savings Public satisfaction with telephone consultations is high, and patients increasingly wish to have this option Professionals' enthusiasm is tempered by concerns about medical and medicolegal risks, however proper training and organization can help to minimize these risks	2002	2/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail - Description states: UK	Not reported	Not reported
	Review of informatics systems to promote improved care for chronic illness (146)	Regarding the use of information-systems to support team-based chronic illness care,	2005	4/10 (AMSTAR rating from Program in Policy Decision-	Not applicable (no studies met the inclusion	Not applicable	Not applicable

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		67% percent of reviewed experiments had positive outcomes and 94% of uncontrolled, observational studies claimed positive results		making)	criteria set for the review)		
	A review of telephone support interventions for family caregivers of persons with dementia and to identify best practices for nurses who seek to provide telephone support (77)	<p>Analysis was based on Watson's theory of human caring, which focuses on transpersonal caring relationships and integration of Watson's carative factors into communication with family caregivers.</p> <p>Evidence shows that telephone support interventions can significantly reduce caregiver burden and other symptoms of stress for family caregivers, especially older women.</p>	2007	2/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	6/6	Not reported in detail – The review mentioned that considering that different ethnic groups have varying cultures and language barriers, it would be necessary to employ a variety of support personals that would be able to support diversity
	Assessment of telephone consultation on safety, service usage and patient satisfaction and its comparison with telephone consultation by different healthcare professionals (70)	<p>Study found that telephone consultation and triage reduce immediate general practitioner, or home visits, and that, in general, at least 50% of calls can be handled by telephone advice alone regardless of the type of healthcare professional involved.</p> <p>Patients were generally satisfied with this intervention.</p>	2007	10/10 (AMSTAR rating from Program in Policy Decision-making)	0/9	0/9	0/9
	Review of the effectiveness and cost of local Nurse Telephone Triage in health care delivery (147)	Evidence indicates that local NTT in primary care is effective, and as an out-of-hours service is likely to be cost	Not reported	9/10 (AMSTAR rating from McMaster Health Forum)	0/10	Not reported	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		saving. Nurse telephone triage reduced immediate GP visits without causing adverse outcomes, and patients were overall satisfied with the intervention					
	Assessment of the efficacy of applying wearable systems for monitoring mobility-related activity in older populations, focusing on technologies and applications, research designs, feasibility, adherence and clinical relevance (148)	Study results indicate that older populations predominantly use step counters, and to a lesser extent combinations of different sensors, however these are not always accurate in monitoring the intensity of the activity. Feasibility and adherence aspects of wearable motion sensing technology mainly relate to the reliability of the devices in unsupervised settings and acceptance by the populations	2007	6/9 (AMSTAR rating from Program in Policy Decision-making)	0/42	42/42	Not reported
Electronic health records	Assessment of the effectiveness of electronic medical records (EMRs) as tools for improving surrogate patient outcomes in the outpatient primary care setting (81)	Interventions focused on electronic medical record (EMR) systems used by primary care physicians in the out-patient setting. All 7 studies regarding complete EMR systems reported a benefit of EMR use while 8 out of 9 studies assessing hybrid EMR systems reported benefits.	1999	5/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail but description states studies from Canada were included	1/16	Not reported
Specialist outreach	Assessment of psychiatric outreach services that provide mental health assessment and treatment to older adults in their homes or communities	The studies highlight the gatekeeper model (non-traditional community referral sources) in comparison with traditional referral sources	2004	2/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail	14/14	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	(84)	<p>(medical providers, family members, informal caregivers, or other concerned persons).</p> <p>Findings suggest that the gatekeeper approach reaches individuals who are less likely to gain access to services through conventional referral approaches, however they were also found to be less likely to use services.</p> <p>Twelve studies (of the 14 included in the review) found that home and community-based treatment of psychiatric symptoms were associated with improved or maintained psychiatric status.</p>					
	Assessment of the effectiveness of active-recruitment outreach programs for the depressed elderly (83)	<p>Review focused on studies in which depressed elderly were recruited from the community, however, these depressed persons who volunteer for a research program may be different from depressed persons who participate in a regular outreach programs.</p> <p>Overall, evidence indicates strong beneficial effects for interventions in which depressed elderly are actively recruited from the community</p>	1997	4/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	14/14	Not reported
	Overview of specialist outreach clinics and their effectiveness on access, quality, health outcomes,	Most included studies involved urban non-disadvantaged populations in developed countries.	2002	10/11 (AMSTAR rating from Program in Policy Decision-making)	0/9	Not reported	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	patient satisfaction, use of services, and costs (82)	Simple 'shifted outpatients' styles of specialist outreach were shown to improve access, but not necessarily health outcomes, whereas more complex specialist outreaches were correlated with improved outcomes.					
Transportation programs	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Flexible employment	A review of the health effects of interventions which aim to alter the psychosocial work environment, with a particular focus on differential impacts by socio-economic status, gender, ethnicity or age (85) ***provided a review of other systematic reviews	Interventions included all types of changes to the psychosocial work environment focusing on the organizational rather than changes to the individual or physical environment. Organizational and psychosocial level changes to the psychosocial work environment can have important and generally beneficial effects on health and health inequalities.	2007	7/9 (AMSTAR rating from Program in Policy Decision-making)	2/7	1/7	5/7 (studies examined differential health effects by socio-economic and demographic group but was not clear on which of these studies focused on older adults)
	To highlight the labour market choices of unpaid caregivers (53)	Caregivers in general are equally as likely to be in the labour force as non-caregivers Caregivers are more likely to work fewer hours in the labour market than non-caregivers, particularly if their caring commitments are heavy; and only those heavily involved in caregiving are significantly more likely to withdraw from the labour market than non-caregivers.	2006	4/10 (AMSTAR rating from Program in Policy Decision-making)	1/35	35/35	0/35

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	Review of the wider social determinants of health through the implementation of appropriate interventions to highlighting areas for further development (86)	Research evidence indicates that certain categories of intervention may impact positively on inequalities or on the health of specific disadvantaged groups, particularly interventions in the fields of housing and the work environment.	2007	4/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	2/30	Not reported
Income supports	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Housing supports	Review of the wider social determinants of health through the implementation of appropriate interventions to highlighting areas for further development (86)	Research evidence indicates that certain categories of intervention may impact positively on inequalities or on the health of specific disadvantaged groups, particularly interventions in the fields of housing and the work environment.	2007	4/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	2/30	Not reported
	Review assessing whether family housing subsidies effectively improve household health outcomes (89)	Included studies focused on mixed-income housing developments, defined as a publicly subsidized multi-family rental housing in which the deliberate mixing of income groups is a fundamental part of their operating and financial plans. Tenant-based rental assistance programs for low-income households were also a central focus. Evidence indicates such programs are recommended to improve household safety, due to reductions in exposure to neighbourhood crimes.	2000	3/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		The analysis was inconclusive regarding the effectiveness of programs on housing hazards, youth risk behaviours, and psychological and physical morbidity due to study quality.					
Accessible communities and transportation	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Appendix 2: Systematic reviews relevant to Option 2 – Coordinate integrated healthcare services that are built around the needs of older adults and support healthy aging

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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
Case management	Evaluation of the usefulness of comprehensive geriatric assessment (CGA) (114)	<p>The analysis suggests that comprehensive geriatric assessment programs linking geriatric evaluation with strong long-term management are effective for improving survival and function in older persons</p> <p>Combined odds ratio of living at home at follow-up was 1.68 (1.17-2.41) for geriatric evaluation and management units, 1.49 (1.12-1.98) for hospital-home assessment services, and 1.20 (1.05-1.37) for home assessment services.</p> <p>Covariate analysis showed that programs with control over medical recommendations and extended ambulatory follow-up were more likely to be effective.</p>	Not Reported	5/11 (AMSTAR rating from Program in Policy Decision-making)	4 /28	28/28	Not reported
	A comparison of the effects of comprehensive geriatric assessment interventions on emergency department (ED) visits (92)	<p>Review focused on comparing interventions of CGA with a no-CGA control intervention in regards to ED utilization.</p> <p>Out-patient/primary care: Five of the 7 longer term RCTs and one cross-sectional study reported a significant reduction in ED utilization with the intervention compared with the control, while only two RCTs reported no significant reduction in ED utilization.</p>	2004	6/11 (AMSTAR rating from Program in Policy Decision-making)	6 /26	21/26	4/26

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		Home-care: All 4 studies (2 RCTs, 1 quasi-experimental study and 1 non-randomized trial) reported a significant decrease in ED utilization with the intervention.					
	To assess the effectiveness of nurse-assisted case management for improving post-hospital transitions of elderly patients to other settings (94)	Eight of the 15 interventions showed reduced hospital readmission rates and/or fewer hospital days. These findings were observed across patients with "all cause" and heart failure, a variety of hospital types, and variations in the intervention. Reductions in the use of emergency departments were observed in 3 of the 11 studies investigating this. Lower expenditures were reported by all 6 studies reporting such comparisons.	2006	2/10 (AMSTAR rating from Program in Policy Decision-making)	2/15	15/15	Not reported
	Evaluation of the effects of patient advocacy case management on service use and healthcare costs for impaired older people or adults with a chronic somatic disease living in the community (93)	No evidence was found for clinically relevant increase of service use and costs. In two of eight relevant studies, it was reported that patient advocacy case management led to decreased service use and to savings in costs.	2007	6/11 (AMSTAR rating from McMaster Health Forum)	1 /8	8/8	8/8
	Review of interventions to manage the older adult in the acute care hospital setting (102)	Studies showed the use of multidisciplinary teams in specially designed units demonstrated statistically significant results for inpatient geriatric unit care	2006	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	26/26	3/26

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>Multiple studies indicated early comprehensive discharge planning resulted in patients being able to report that they had adequate information, less concern about managing their care at home, knew their medicines, and knew danger signals indicating potential complications</p> <p>Evidence suggests involving families in care decisions has a positive impact on patient care</p>					
	<p>To review the impact of case management programs on healthcare resource use; their impact on patient satisfaction, quality of life, and functional status (patient-centered outcomes); and their cost-effectiveness (117)</p>	<p>Of the seven studies examining case management's impact on health resource use, only two found a positive effect. Both successful programs targeted patients with specified disease conditions and care was supervised by a medical subspecialist.</p> <p>None of the programs targeting general disease conditions or supervised by generalists reported a positive effect.</p> <p>All six studies examining patient-centred outcomes reported a positive impact. These effects were unrelated to the patient's conditions or the study personnel.</p> <p>Both studies examining clinical parameters found a positive impact.</p>	<p>1997</p>	<p>3/10 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>Not reported</p>	<p>1/9</p>	<p>Not reported</p>

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		Only three studies examined costs; all reported non-significant cost savings.					
	To identify common features of an effective system of integrated care, and to examine the potential of such models to positively affect care of the elderly, and public finances (149)	[need to go to full-text]	2000	0/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail but description indicates that studies from Canada were included	73/73	0/73
Home care	Assessment of the effectiveness of intensive home visiting programs targeting older people with poor health or otherwise with functional impairments (122)	Results showed no statistically significant favourable effects of home visits compared to control for any of the included measures (mortality, health status, mental health, social functioning, hospital admission, nursing home admission, home for older person, medical specialist contacts, general practitioner contacts, home nursing care, home help and financial evaluation.	2007	8/10 (AMSTAR rating from Program in Policy Decision-making)	1/7	7/7	7/7
	Review of home-based end-of-life care in reducing the likelihood of dying in hospital and what effect this has on the patient's life (99)	The evidence included in this review supports the use of end of life home-care programs for increasing the number of patients who will die at home. Those receiving home-based end-of-life care were statistically significantly more likely to die at home compared with those receiving usual care There were no statistically significant differences for functional status, psychological well-being or cognitive status,	2009	8/11 (AMSTAR rating from Program in Policy Decision-making)	0/4	4/4	4/4

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>between patients receiving home-based end-of-life care compared with those receiving standard care (including inpatient care).</p> <p>There was some evidence of increased patient satisfaction with home-based end-of-life care, and little evidence of the impact this form of care has on caregivers</p>					
	<p>An assessment of whether home rehabilitation after stroke is better and/or less expensive than the more conventional alternatives (124)</p>	<p>Interventions included were: home rehabilitation versus conventional rehabilitation or day care; and home rehabilitation with self-training versus conventional rehabilitation.</p> <p>There were no statistically-significant differences in outcomes between home rehabilitation and conventional care with respect to ADL functions, depression, QOL or social activities, or for stress, social activities, satisfaction, depression and QOL for family members</p>	<p>1999</p>	<p>5/9 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>0/7</p>	<p>0/7</p>	<p>Not reported</p>
	<p>Review of nurse home visiting interventions for community-dwelling older persons with existing disability (127)</p>	<p>The review suggests that the components of in-home visiting associated with favorable disability outcomes include multiple home visits, geriatric training and experience, health provider collaboration, multidimensional assessment, and theory use. In contrast, lack</p>	<p>2006</p>	<p>5/9 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>3/10</p>	<p>10/10</p>	<p>10/10</p>

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		of process measures, physician collaboration, training and specific intervention components targeting disability are associated with ineffective interventions.					
	An assessment of the effectiveness and cost of managing patients with admission avoidance hospital at home compared with in-patient hospital care (97)	<p>There was a non-significant reduction in mortality at three months for the admission avoidance hospital at home group, which reached significance at six months follow-up.</p> <p>A non-significant increase in admissions was observed for patients allocated to hospital at home.</p> <p>Few differences were reported for functional ability, quality of life or cognitive ability. Patients reported increased satisfaction with admission avoidance hospital at home.</p> <p>Two trials conducted a full economic analysis, when the costs of informal care were excluded admission avoidance hospital at home was less expensive than admission to an acute hospital ward.</p> <p>There is no evidence from the analysis to suggest that admission avoidance hospital at home leads to outcomes that differ from inpatient hospital</p>	2008	9/10 (AMSTAR rating from Program in Policy Decision-making)	0/10	4/10	1/10

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		care.					
	To examine the effectiveness of home help and homecare services provided by local authorities, health services or independent agencies to persons living at home (150)	<p>Home care case management programs in the U.K. reported significant positive outcomes for preventing/delaying admission to long-stay nursing/residential homes. A key factor in achieving a positive outcome appeared to be that people receiving the case management schemes were assessed as at risk of institutional care. Where programs did not target those on the boundary of institutional care, there was no significant impact on institutionalization.</p> <p>The evidence indicated that there was very little impact on rates of acute hospital admission, or on lengths of hospital stay.</p> <p>There was consistent evidence of a reduction in unmet needs (as defined by service-users and providers).</p> <p>There was consistent and significant impact on users' life satisfaction among those receiving homecare support. However, evidence of improvement in subjective physical and mental health was inconclusive.</p>	Not reported	5/10 (AMSTAR rating from Program in Policy Decision-making)	Not yet available	Not yet available	Not yet available
	A review discerning whether hospital at home services represent an effective way to	No statistically significant differences were detected for patient health outcomes.	1996	8/10 (AMSTAR rating from Program in Policy Decision-	0/5	2/5	Not reported

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	manage patients, compared with in-patient hospital care (96)	<p>Patients discharged early from hospital to hospital at home following elective surgery expressed greater satisfaction with care than those who remained in hospital.</p> <p>Carers expressed less satisfaction with hospital at home compared with hospital care.</p> <p>Only one trial, which recruited patients requiring terminal care, formally tested for a difference in cost. No statistically significant difference was detected for overall net health costs</p> <p>This review does not support the widespread adoption of hospital at home, nor the discontinuation of existing schemes for elderly medical patients, patients who have had elective surgery, or those with a terminal illness.</p>		making			
	A systematic review of the effectiveness of in-home community nurse-led interventions for older persons with, or at risk of, mental health disorders (151)	<p>Interventions included were those carried out by a community nurse in the patient's home, and which specifically intended to facilitate the mental health of the patient</p> <p>Evidence indicates screening tools are consistently and significantly more accurate for detecting symptoms of mental</p>	2006	7/9 (AMSTAR rating from Program in Policy Decision-making)	1/9	Not reported in detail but description indicates that 3 studies focus on older adults	Not reported

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		<p>health disorders (MHD) than either the nurses' opinions or other non-validated or non-MHD-specific tools</p> <p>Three inter-disciplinary nurse-led interventions were also found to be beneficial, though the ability to generalize these results is uncertain.</p>					
	<p>A review of the effects of preventive home visits to elderly people living in the community (123)</p>	<p>Favourable effects of the home visits were observed in 5 out of 12 trials measuring physical functioning, 1 out of 8 measuring psychosocial function, 2 out of 6 measuring falls, 2 out of 7 measuring admissions to institutions, and 3 of 13 measuring mortality.</p> <p>None of the trials reported negative effects.</p> <p>The review concluded that there is no clear evidence in favour of the effectiveness of preventive home visits to elderly people living in the community.</p>	<p>1999</p>	<p>8/11 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>1/15</p>	<p>15/15</p>	<p>1/15</p>
	<p>A comparison of the effects of care home versus hospital environments and own home environments in the rehabilitation of older people (125)</p>	<p>The review found that there is insufficient evidence to compare the effects of care home environments versus hospital environments or own home environments on older persons' rehabilitation outcomes.</p> <p>It was found that of the relevant studies identified, that the description and specification of</p>	<p>2007</p>	<p>6/6 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>Not reported</p>	<p>Not reported</p>	<p>Not reported</p>

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		the environment was often not clear; the components of the rehabilitation system within the given environments were not adequately specified and; when the components were clearly specified they demonstrate that the control and intervention sites are not comparable.					
	An evaluation of home-based nursing health-promotion programs for older people (152)	<p>Studies showed individuals in high-risk groups were higher users of nursing homes, however disability was more significantly reduced due to such interventions among people at low risk at baseline, but not among participants at high risk</p> <p>Evidence shows older people at higher risk would benefit most from a more intensive intervention that includes systematic follow-up and coordination as well as more frequent intervention</p>	2003	7/10 (AMSTAR rating from Program in Policy Decision-making)	3/12	12/12	Not reported
	Appraisal of home visiting programs that offer health promotion and preventive care to older people (135)	<p>Home visits were associated with a significant reduction in admissions to long term institutional care and a reduction in mortality for members of the general elderly population, however no reduction in hospital admissions within the same group.</p> <p>Evidence shows that the effect of home visits did not depend on whether the intervention was targeted at elderly people who</p>	1997	8/10 (AMSTAR rating from Program in Policy Decision-making)	1/15	15/15	2/15

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	To evaluate the evidence available on preventive home visits for elderly persons (95)	<p>are at risk or whether it was delivered more widely</p> <p>A quantitative, across-studies evaluation demonstrated that preventive home visits to elderly persons were effective both in studies with selected and with unselected inclusion of participants. The second meta-analysis did not confirm this result. Effectiveness here was only demonstrated using stratified analyses which investigated a large number of home visits, the performance of a multidimensional assessment with follow-up visits, and the average age and morbidity of participants as relevant influencing factors. However no factor exerted an influence over more than one of the investigated target parameters. The findings thus constitute very unspecific evidence of effectiveness with largely unclear determinants of success.</p>	2003	Not yet available (no English full-text article available for review)	Not reported in detail but description states that studies from Canada were included	26/26	Not yet available
	Evaluation of hospital at home programs on health outcomes and quality of life of patients and carers as well as the costs of this form of care (153)	<p>Evidence showed few differences in health outcomes between patients allocated to hospital at home and inpatient care and can be improved with schemes designed specifically to avoid admission to hospital.</p> <p>Patients and their carers consistently rated hospital at home positively.</p>	2001	Not yet available (no English full-text article available for review)	Not reported	Not reported	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		Reduction in health services costs was not as great as predicted as a fund proved to be a significant factor in this form of care.					
Respite/episodic care	Assessment of the options for intermediate-level care to bridge the gap between the hospital and home-based care (129)	<p>Evidence supports intervention programs that provide services to reduce and prevent falls.</p> <p>Discharge planning arrangements showed some beneficial effects on subsequent readmission to hospital.</p> <p>Outcomes for selected patients in hospital-at-home schemes seems to be as good as standard hospital care, although studies have used many different outcome measures.</p> <p>Most of the published data on the care needs of older emergency patients are descriptive with minimal evaluation of the effect of the interventions on patient outcomes.</p> <p>The current disease-oriented and episodic models of emergency care did not provide enough evidence to adequately respond to the complex care needs of older patients experiencing multiple and often interrelated medical, functional and social problems.</p> <p>Various case management</p>	2003	8/11 (AMSTAR rating from Program in Policy Decision-making)	4/39	39/39	Not reported

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		models including a post acute care program (PAC), a short-term case management by an advanced practice nurse, an integrated community care program, case managers for patients discharged from hospital, and integrated home care program guided by a case manager generally showed benefits to patients.					
	Evaluation of aftercare in chronic patients and the frail elderly when discharged from hospital (107)	Analysis by type of aftercare program showed that the majority of studies did not report clear beneficial effects for the intervention group. When aftercare programs were compared to usual care (8 studies) or the reference treatment was no special nursing care (6 studies), most effects were not beneficial for the intervention group. In the 3 studies comparing intervention with institutional care, positive effects were evident for quality of care and costs.	1994	4/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	6/17	Not reported in detail (inclusion criteria for the review included studies of chronically ill patients and frail elderly patients)
	Assessment of the effectiveness and cost-effectiveness of breaks in care in improving the well-being of informal carers of frail and disabled older people living in the community, and identification of carer needs and barriers to uptake of respite services (105)	There was some evidence to support respite having a positive effect on carers, but the evidence was limited and weak. It is difficult, therefore, to make recommendations as to the most appropriate form of delivery of respite, apart from the suggestion that a range of services is probably most appropriate, to provide flexibility of respite provision and	2008	8/10 (AMSTAR rating from Program in Policy Decision-making)	9/104	99/104	99/104 (review focused on studies of the frail elderly)

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		<p>responsiveness to carer and care recipient characteristics and needs, and also changes in those needs over time.</p> <p>Uptake of respite care was influenced by: carer attitudes to caring and respite provision; the caregiving relationship; knowledge of, and availability of, services; the acceptability to, and impact of respite care on, care recipients; hassles resulting from the use of respite care; quality of respite care; and the appropriateness and flexibility of service provision. Carers expressed needs for active information provision about services, support offered early in the caregiving career, access to a variety of services with flexible provision, reliable transport services, continuity of care, good-quality care, appropriate environments, care that provides benefits for care recipients (socialization and stimulation), and appropriate activities for care recipients' levels of abilities and interests</p>					
	<p>To assess the effectiveness of community-based complex interventions in preservation of physical function and independence in elderly people(106)</p>	<p>Community-based complex interventions reduced the risk of not living at home, nursing-home admissions, but not death.</p> <p>Risk of hospital admissions and falls were reduced, and physical function was better in the</p>	<p>2005</p>	<p>8/11 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>Not reported</p>	<p>28/87</p>	<p>24/87</p>

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		<p>intervention groups than in other groups.</p> <p>Benefit for any specific type or intensity of intervention was not noted.</p> <p>In populations with increased death rates, interventions were associated with reduced nursing-home admission.</p>					
	<p>Review of the evidence for different models of community-based respite care for frail older people and their carers. Where data permitted, subgroups of carers and care recipients, for whom respite care is particularly effective or cost-effective, were identified (104;154)</p>	<p>Interventions included day care, host family, in-home, institutional and video respite.</p> <p>Evidence suggests that respite for caregivers of frail elderly people generally has a small effect upon caregiver burden and caregiver mental and physical health.</p> <p>No reliable evidence was found that respite can delay entry to residential care or that respite adversely affects care recipients.</p> <p>Despite this, the level of satisfaction with respite programs is high in comparison to normal care.</p> <p>No conclusions could be drawn regarding cost-effectiveness due to the diversity between and quality of the study methodologies.</p>	2005	<p>8/9 (AMSTAR rating from Program in Policy Decision-making)(104);</p> <p>5/11 (AMSTAR rating from Program in Policy Decision-making)(154)</p>	<p>Not reported in detail (results state that the majority of studies came from North America)</p> <p>*Note that the more detailed version of this review (104) also included 20 systematic reviews and 2 economic evaluations, which contributed to the effectiveness analysis</p>	22/22	22/22 (review focused on studies about frail older people)
	<p>Evaluation of interventions to reduce the burden placed on</p>	<p>Evidence shows that overall, all types of interventions designed</p>	1999	7/11 (AMSTAR rating from Program	Not reported	24/24	1/24

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	those caring for people with dementia (103)	to reduce caregiver burden including multicomponent and respite care programs had no effect on burden reduction. The results of this study were limited by a lack of clarity and consistency among the studies included, regarding what is burden and how it is measured.		in Policy Decision-making)			
	To outline the theoretical and practical framework for geriatric rehabilitation in the Nordic countries and second, to survey the scientific medical publications for evidence-based geriatric rehabilitation (155)	Specialized geriatric rehabilitation is complicated but effective when properly performed. Interdisciplinary teamwork, targeting of patients, comprehensive assessment and intensive and patient-targeted rehabilitation seem to characterize the most effective programs.	Not reported	1/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported	30/30	10/30
	Evaluation of attendance at a medical day hospital for elderly people in preventing death, disability, and institutionalization and improving subjective health status (118)	Evidence shows that day hospital services in comparison to comprehensive elderly care have largely similar outcomes, although there were trends toward reduced use institutional care by day hospital patients There are limitations to day hospital use in regards to costs as studies showed it is also more expensive than regular hospital care.	1997	6/11 (AMSTAR rating from Program in Policy Decision-making)	2/12	12/12	Not reported
Discharge planning from institutions	Evaluation of discharge planning (DP) from hospital to home of patients age 65 years or older (128)	Large effects were noted for patient satisfaction, while moderate effects were evident for patients' quality of life and readmission rates.	2005	5/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	25/25	3/25
	Assessment of the	Hospital length of stay and	2009	9/11 (AMSTAR	Not reported in	8/21	Not reported

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	effectiveness of planning the discharge of patients moving from hospital (101)	<p>readmissions to hospital were significantly reduced for patients allocated to discharge planning</p> <p>For elderly patients with a medical condition (usually heart failure) there was insufficient evidence for a difference in mortality or being discharged from hospital to home. This was also the case for trials recruiting patients recovering from surgery and a mix of medical and surgical conditions.</p> <p>In three trials patients allocated to discharge planning reported increased satisfaction.</p> <p>There was little evidence on overall healthcare costs.</p>		rating from www.rxforchange.ca	detail - Description states: USA (5); Canada (2); Denmark (1)		
	An evaluation of the effectiveness of pre-discharge home assessment visits for elderly patients (156)	No randomized controlled trials were found. Only five studies (two retrospective surveys, three observational surveys) were identified. In four of these, a possible benefit for home visiting was suggested.	1998	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	5/5	Not reported
	A comparison of hospital discharge process, their outcome and cost-effectiveness and how they can be improved (100)	<p>Four types of intervention were identified: discharge planning, comprehensive geriatric assessment, discharge support and educational interventions</p> <p>Overall no significant effect was seen on mortality at 3 months, 6 months or 12 months after discharge.</p>	Not reported	10/11 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail (description indicates that studies from Canada were included)	54/54	Not reported

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		<p>The risk of readmission to hospital was significantly reduced by intervention, which was maintained when the intervention was provided by a single professional as compared to a team.</p> <p>The effect on readmission risk was most apparent in interventions provided both in hospital and in the patient's home. A similar positive finding was seen for interventions provided in the patient's home only, but little effect was seen for interventions provided only in hospital</p> <p>The evidence from these trials does not suggest that discharge arrangements have effects on mortality or length of hospital stay. This review supports the concept that arrangements for discharging older people from hospital can have beneficial effects on subsequent readmission rates. Interventions provided across the hospital–community interface, both in hospital and in the patient's home, showed the largest effect</p>					
	To determine the effectiveness and costs of interventions intended to improve access to health and social care for older patients following discharge from acute hospitals (157)	The review found some evidence that services combining needs assessment, discharge planning and a method for facilitating the implementation of these plans were more	2000	5/10 (AMSTAR rating from Program in Policy Decision-making)	1/22	22/22	3/22

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		<p>effective than services that do not include the latter action.</p> <p>The assessment of need may be insufficient in itself for the adequate provision of post-discharge care. Needs assessment should be combined with a service that facilitates the implementation of care plans.</p>					
	To assess the effectiveness of nurse-assisted case management for improving post-hospital transitions of elderly patients to other settings (94)	<p>Eight of the 15 interventions showed reduced hospital readmission rates and/or fewer hospital days. These findings were observed across patients with "all cause" and heart failure, a variety of hospital types, and variations in the intervention. Reductions in the use of emergency departments were observed in 3 of the 11 studies investigating this. Lower expenditures were reported by all 6 studies reporting such comparisons.</p>	2006	2/10 (AMSTAR rating from Program in Policy Decision-making)	2/15	15/15	15/15
	Review of interventions to reduce hospitalizations from formal long-term care settings (158)	<p>The interventions showing the strongest potential are those that increase skilled staffing, specially through physician assistants and nurse practitioners; improve the hospital-to-home transition; substitute home health care for selected hospital admissions; and align reimbursement policies such that providers do not have a financial incentive to hospitalize.</p> <p>However, much of the evidence</p>	2005	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	55/55	Not reported

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		is weak and could benefit from improved research design and methodology.					
	Evaluation of aftercare in chronic patients and the frail elderly when discharged from hospital (107)	Analysis by type of aftercare program showed that the majority of studies did not report clear beneficial effects for the intervention group. When aftercare programs were compared to usual care (8 studies) or the reference treatment was no special nursing care (6 studies), most effects were not beneficial for the intervention group. In the 3 studies comparing intervention with institutional care, positive effects were evident for quality of care and costs.	1994	4/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	4/17	Not reported
	A review of the effectiveness and cost of managing patients with early discharge hospital at home compared with in-patient hospital care (98)	For patients recovering from a stroke and elderly patients with a mix of conditions there was insufficient evidence of a difference in mortality between groups. Readmission rates were significantly increased for elderly patients with a mix of conditions allocated to hospital at home. For patients recovering from a stroke and elderly patients with a mix of conditions respectively, significantly fewer people allocated to hospital at home were in residential care at follow up.	2008	10/11 (AMSTAR rating from Program in Policy Decision-making)	1/26	Not reported	Not reported in detail (7 studies examine older adults with a mix of medical conditions)

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		<p>Patients reported increased satisfaction with early discharge hospital at home.</p> <p>There was insufficient evidence of a difference for readmission between groups in trials recruiting patients recovering from surgery.</p> <p>Evidence on cost savings was mixed.</p>					
	To evaluate the evidence for interventions designed to improve outcomes for elders discharged from the emergency department (159)	<p>Three of four RCTs designed to measure functional outcomes showed a reduction in functional decline in the intervention group. The trials that resulted in functional benefits enrolled high-risk patients and included geriatric nursing assessment and home-based services as part of the intervention.</p> <p>Results of trials to decrease health service utilization rates following an ED visit were mixed.</p>	2005	6/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported in detail, but description states that at least one study from Canada was included	27/27	0/27
	Review of interventions to manage the older adult in the acute care hospital setting (102)	<p>Studies showed the use of multidisciplinary teams in specially designed units demonstrated statistically significant results for inpatient geriatric unit care</p> <p>Multiple studies indicated early comprehensive discharge planning resulted in patients being able to report that they</p>	2006	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	26/26	3/26

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		<p>had adequate information, less concern about managing their care at home, knew their medicines, and knew danger signals indicating potential complications</p> <p>Evidence suggests involving families in care decisions has a positive impact on patient care</p>					
Electronic health records	Evaluation of electronic medical records (EMRs) as tools for improving surrogate patient outcomes in the outpatient primary care setting (81)	<p>Interventions focused on electronic medical record (EMR) systems used by primary care physicians in the out-patient setting.</p> <p>All 7 studies regarding complete EMR systems reported a benefit of EMR use, while 8 out of 9 studies assessing hybrid EMR systems reported benefits.</p>	1999	5/10 (AMSTAR rating from McMaster Health Forum)	Not reported in detail but description states studies from Canada were included	Not reported	Not reported
Evidence-based toolkit	Evaluation of the effectiveness of CGA in hospitals for older adults admitted as an emergency (108)	<p>Comprehensive geriatric assessment (or CGA) is a simultaneous, multi-level assessment of various domains by a multidisciplinary team to ensure that problems are identified, quantified and managed appropriately.</p> <p>Evidence shows significant improvement in the patient health outcomes while living within their own home when they receive CGA.</p> <p>There is evidence that specialization within the ward team increases the likelihood of a successful multidisciplinary</p>	2010	9/10 (AMSTAR rating from Program in Policy Decision-making)	4/22	22/22	22/22

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		team outcome as well as a ward environment that promotes patient independence.					
	Appraisal of the effectiveness of gerontologically informed nursing assessment and referral interventions for older attendees in emergency departments (109)	Evidence shows a clear benefit to this intervention as characterized by reduced number of post-intervention hospital admissions and/or representations to the ED, as well as reduced hospital days, nursing home admissions, community agency referrals, and a reduction in the rate of hospital admissions in the longer term.	2008	6/10 (AMSTAR rating from Program in Policy Decision-making)	1/13	13/13	Not reported
Multidisciplinary teams or units	An assessment of the effectiveness of geriatric evaluation and management units (GEMUs) in treating frail older adults (119)	Variable outcome measures in the three main articles reviewed make it difficult to draw conclusions about specific benefits of GEMUs. Outcomes such as mortality, function and quality of life reveal inconsistent results among the three studies. Mobility and cognition were examined in only one study, but show positive results. GEMUs were successful in delaying the need for long-term care admission. The overall cost of care in a GEMU was neutral compared with that of usual care.	Not reported	2/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	3/3	3/3
	To determine the effective components and the feasibility of collaborative care interventions in the treatment of depression in older patients (116)	Collaborative care interventions are more effective for depression in older people than usual care and are also of high value Subjects receiving collaborative care interventions were	2007	7/11 (AMSTAR rating from Program in Policy Decision-making)	0/3	3/3	Not reported

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		<p>significantly more likely to report depression treatment than those receiving usual care during each follow-up period.</p> <p>Collaborative care interventions significantly increased depression-free days, but did not significantly increase outpatient cost.</p> <p>At 6 and 12 months post-intervention, compared with those receiving usual care, participants receiving collaborative care interventions had lower levels of depression symptoms and thoughts of suicide</p> <p>Collaborative care interventions with communication between primary care providers and mental health providers were no more effective in improving depression symptoms than CCIs without such communication.</p>					
	<p>A comparison between acute geriatric units and conventional care units in adults aged 65 or more admitted to hospital for acute medical disorders (115)</p>	<p>Evidence shows that compared with older people admitted to conventional care units, those admitted to acute geriatric units had a lower risk of functional decline at discharge.</p> <p>Studies did not show a reduction in case fatality either at discharge or at three months follow-up, however this is consistent with studies of very old (80 or older)</p>	<p>2008</p>	<p>8/11 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>1/11</p>	<p>11/11</p>	<p>11/11</p>

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		or frail people.					
	Comparison of the effects of coordinated multidisciplinary inpatient rehabilitation, with that of usual (orthopedic) care, for older patients with hip fracture (160)	<p>Observed trends favour coordinated multidisciplinary approaches to rehabilitation after proximal femoral fracture, where results suggest a reduction in the relative risk of adverse outcomes.</p> <p>Study results were essentially inconclusive due to a large degree of variability between the reviewed studies' methodologies and aims.</p>	2002	8/11 (AMSTAR rating from Program in Policy Decision-making)	1/9	9/9	1/9
	Investigation of the benefits of multidisciplinary rehabilitation for people who have sustained hip fracture (161)	<p>Patients who received multidisciplinary rehabilitation were at a lower risk of a "poor outcome" (dying or admission to a nursing home) and showed a trend towards higher levels of returning home</p> <p>There was a 16% reduction in the pooled outcome combining death or admission to a nursing home</p>	2005	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	11/11	11/11
	Evaluation of the effects of multidisciplinary rehabilitation, in either inpatient or ambulatory care settings, for older patients with hip fracture (162)	<p>Evidence suggests that multidisciplinary rehabilitation is not harmful and does not add to the burden of carers.</p> <p>In one trial carers reported significantly lower burden in the long term after multidisciplinary rehabilitation.</p> <p>Participants in the home-based rehabilitation group had shorter hospital stays, but longer periods</p>	2009	10/11 (AMSTAR rating from Program in Policy Decision-making)	1/13	13/13	13/13

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		of rehabilitation, suggesting that that multidisciplinary rehabilitation may have some implications in helping older people recover after a hip fracture					
	Review of interventions to manage the older adult in the acute care hospital setting (102)	<p>Studies showed the use of multidisciplinary teams in specially designed units demonstrated statistically significant results for inpatient geriatric unit care</p> <p>Multiple studies indicated early comprehensive discharge planning resulted in patients being able to report that they had adequate information, less concern about managing their care at home, knew their medicines, and knew danger signals indicating potential complications</p> <p>Evidence suggests involving families in care decisions has a positive impact on patient care</p>	2006	7/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	26/26	3/26
	To gain a better understanding of the evidence surrounding interprofessional collaboration in Canadian primary healthcare, and the potential benefits for patients and healthcare providers (120)	<p>There is high-quality evidence supporting positive outcomes for patients/clients, providers and the system in specialized areas such as interprofessional collaboration in mental healthcare, and chronic disease prevention and management.</p> <p>There are findings in the literature, and in some jurisdictions, which support</p>	Not reported	7/11 (AMSTAR rating from McMaster Health Forum)	Not reported in detail (but indicates that studies from Canada were included)	Not reported	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>positive outcomes for patients/clients, providers and the system when interprofessional collaboration (for example, physicians/nurses, physicians/pharmacists, physicians/dietitians in partnerships) is fostered and supported on the basis of servicing geographic populations or population health models. These outcomes include enhanced patient/client self-care, knowledge and outcomes; enhanced provider satisfaction, knowledge, skills and practice behaviours; and system enhancements such as the provision of a broader range of services, better access, shorter wait times and more effective resource utilization.</p> <p>There are findings of cost benefits of interprofessional collaboration in some primary healthcare settings (for example, decreased average provider and patient costs for blood pressure control, and lower readmission rates and costs for team-managed, home-based primary care).</p>					
Primary care providers delivering care in long-term care institutions	To identify which staffing models are associated with the best patient and staff outcomes (110)	<p>Two studies evaluated a primary-care model compared with either a team-nursing model or a usual-care model.</p> <p>The primary-care model was</p>	2007	11/11 (AMSTAR rating from Program in Policy Decision-making)	1/2	2/2	0/2

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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>found to provide slightly better results than the comparator for some outcomes such as resident well-being or behaviour. Nursing staff favoured the primary-care model in one study, and neither study found significant improvements in staff outcomes using the primary model compared with the comparator.</p> <p>One study evaluated the uptake of the primary-care model within their facilities and found incorporation of this model into their practice was limited.</p>					
Risk-adjusted payment	<p>To evaluate the impact of financial incentives on healthcare professional behaviour and patient outcomes (111)</p> <p>*This is an overview of systematic reviews and not a single systematic review</p>	<p>Payment for working for a specified time period, each service/episode/visit, a patient or specific population, and a pre-specified level or providing a change in activity or quality of care, were generally effective at improving outcomes</p> <p>Payment for a specified time period was generally ineffective at improving outcomes.</p> <p>Mixed and other systems were of mixed effectiveness for improving outcomes.</p> <p>When looking at the effect of financial incentives overall across categories of outcomes, they were of mixed effectiveness on consultation or visit rates; generally effective in improving</p>	2010	<p>No rating tool available for overviews of systematic reviews</p> <p>The overview conducted AMSTAR appraisals of the included reviews: two scored 7/11 and two scored 9/11</p>	Not applicable	Not applicable	Not applicable

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		processes of care; generally effective in improving referrals and admissions; generally ineffective in improving compliance with guidelines outcomes; and generally effective in improving prescribing costs outcomes.					
	To identify all financial incentives that had been proposed, described or used regardless of their initial objective and, when possible, to assess the results of these incentives on costs, process or outcomes of care(163)	Financial incentives can be used to reduce the use of health care resources, improve compliance with practice guidelines or achieve a general health target. It may be effective to use incentives in combination depending on the target set for a given healthcare program.	1999	1/11 (AMSTAR rating from www.rxforchange.ca)	Not reported in detail (but did indicate that studies from Canada were included)	Not reported	Not reported
	To assess the impact of pay for performance programs on inequalities in the quality of healthcare in relation to age, sex, ethnicity and socio-economic status (164)	There was some weak evidence that the use of financial incentives reduced inequalities in chronic disease management between socio-economic groups. Inequalities in chronic disease management between age, sex and ethnic groups persisted after the use of such incentives.	2008	2/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	Not reported	Not reported
	Review of interventions to reduce hospitalizations from formal long-term care settings (158)	The interventions showing the strongest potential are those that increase skilled staffing, especially through physician assistants and nurse practitioners; improve the hospital-to-home transition; substitute home health care for selected hospital admissions; and align reimbursement policies such that providers do not have a financial incentive to hospitalize.	2005	1/9 (AMSTAR rating from Program in Policy Decision-making)	Not reported	55/55	1/55

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		However, much of the evidence is weak and could benefit from improved research design and methodology.					
Customized integrated healthcare service packages	To evaluate the effectiveness of multifactorial assessment and intervention programs to prevent falls and injuries among older adults recruited to trials in primary care, community, or emergency care settings (126)	<p>No differences were found in the number of fallers during follow-up, admissions to hospital, emergency department attendance, death or move to institutional care.</p> <p>Subgroup analyses found no evidence of different effects between interventions in different locations, populations selected for high risk of falls or unselected, and multidisciplinary teams including a doctor, but interventions that actively provide treatments may be more effective than those that provide only knowledge and referral.</p> <p>Evidence that multifactorial fall prevention programs in primary care, community or emergency care settings are effective in reducing the number of fallers or fall-related injuries is limited</p>	2007	7/11 (AMSTAR rating from Program in Policy Decision-making)	2/19	19/19	Not reported
	To assess the effectiveness of disease management programs in reducing hospital re-admission in older patients with heart failure (113)	<p>Disease management programs are effective at reducing re-admissions among elderly patients with heart failure.</p> <p>Randomized studies consistently suggested that, in comparison with usual care, disease management programs reduced</p>	2003	9/11 (AMSTAR rating from Program in Policy Decision-making)	1/54	54/54	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>the frequency of re-admission for HF or cardiovascular disease by 30% and the combined event of re-admission or death by 18%</p> <p>The results displayed no substantial variation when only disease management programs with home visits, out-patient visits to a clinic, or patient follow-up longer than 6 months were included.</p>					
	To assess the effects of end-of-life care pathways, compared with usual care (no pathway) or with care guided by another end-of-life care pathway across all healthcare settings (e.g. hospitals, residential aged care facilities, community) (121)	No studies met the criteria for inclusion in the review	2009	6/6 (AMSTAR rating from Program in Policy Decision-making)	Not applicable (empty review)	Not applicable (empty review)	Not applicable (empty review)
	Evaluation of the usefulness of comprehensive geriatric assessment (CGA) (114)	<p>The analysis suggests that comprehensive geriatric assessment programs linking geriatric evaluation with strong long-term management are effective for improving survival and function in older persons</p> <p>Combined odds ratio of living at home at follow-up was 1.68 (1.17-2.41) for geriatric evaluation and management units, 1.49 (1.12-1.98) for hospital-home assessment services, and 1.20 (1.05-1.37) for home assessment services.</p> <p>Covariate analysis showed that programs with control over</p>	Not Reported	5/11 (AMSTAR rating from Program in Policy Decision-making)	4 /28	28/28	Not reported

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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 are focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		medical recommendations and extended ambulatory follow-up were more likely to be effective.					
	Assessment of occupational therapy and its ability to improve outcomes for people 60 years of age or older who are living independently (165)	Interventions included for analysis were: training of sensory-motor functions, training of cognitive functions, training of skills, advice and instruction regarding the use of assistive devices and primary caregiver counselling. Evidence strongly supports the use of advice on assistive devices as part of a home hazard assessment on functional ability in older persons above other interventions included in this analysis.	2002	5/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	17/17	0/17
	Assessment of inpatient rehabilitation specifically designed for geriatric patients compared with usual care on functional status, admissions to nursing homes, and mortality (112)	Support shows that in all outcomes inpatient rehabilitation showed a short-term effect after discharge as well as a less pronounced longer term effect at the end of follow-up. Overall the evidence for this intervention indicates beneficial effects over usual care for functional improvement, preventing admissions to nursing homes, and reducing mortality	2008	10/11 (AMSTAR rating from Program in Policy Decision-making)	1/17	17/17	1/17
Consumer complaints process	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Accessible design of institutions and transportation systems	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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Financial protections	Review of the inequalities concerning the amount of out-of-pocket payments (OOPP) made by the elderly aged 65+ and its association with income, education or gender (61)	The largest amount of OOPP is to prescription medications, leading to non-adherence and further health problems. Health care costs in conjunction with inequalities can create a cycle of low income, no supplemental insurance, less paid services, worse health and unfeasible need.	2009	2/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	29/29	29/29
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Appendix 3: Systematic reviews relevant to Option 3 – Coordinate integrated community resources that are built around the needs of older adults and support healthy aging

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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
CCAC/ organizational coordination of access to and delivery of community supports	Assessment of the options for intermediate-level care to bridge the gap between the hospital and home-based care (129)	<p>Evidence supports intervention programs that provide services to reduce and prevent falls.</p> <p>Discharge planning arrangements showed some beneficial effects on subsequent readmission to hospital.</p> <p>Outcomes for selected patients in hospital-at-home schemes seems to be as good as standard hospital care, although studies have used many different outcome measures.</p> <p>Most of the published data on the care needs of older emergency patients are descriptive with minimal evaluation of the effect of the interventions on patient outcomes.</p> <p>The current disease-oriented and episodic models of emergency care did not provide enough evidence to adequately respond to the complex care needs of older patients experiencing multiple and often interrelated medical, functional and social problems.</p> <p>Various case management models including a post acute care program (PAC), a short-term case management by an advanced practice nurse, an integrated community care program, case managers for patients discharged</p>	2003	8/11 (AMSTAR rating from Program in Policy Decision-making)	4/39	39/39	Not reported

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		from hospital, and integrated homecare program guided by a case manager generally showed benefits to patients.					
Electronic health records	Evaluation of electronic medical records (EMRs) as tools for improving surrogate patient outcomes in the outpatient primary care setting (81)	Interventions focused on Electronic medical record (EMR) systems used by primary care physicians in the out-patient setting. All 7 studies regarding complete EMR systems reported a benefit of EMR use while 8 out of 9 studies assessing hybrid EMR systems reported benefits.	1999	5/10	Not reported in detail but description states studies from Canada were included	1/16	Not reported
Evidence-based toolkit	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Customized community support packages	Review of multifaceted intervention programs in reducing the number of falls, fallers, recurrent fallers, and injurious falls among older people living in residential care facilities (132)	Multifaceted programs that encompass a wide range of intervention strategies have shown some evidence of efficacy. Three reported significant reductions in the number of recurrent fallers, two reported significant reductions in the number of falls, and one reported significant reductions in the number of fallers. One other reported a reduction in the number of injurious falls in those who received the multifaceted prevention program compared with the control group.	2007	5/10 (AMSTAR rating from Program in Policy Decision-making)	0/5	5/5	Not reported
Consumer complaints process	No reviews were identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Additional supports through community resources	To assess the effectiveness of personal assistance for older adults with impairments, and the impacts of personal assistance on others, compared to other interventions (131)	The four included studies made three comparisons: (i) personal assistance versus usual care, (ii) personal assistance versus nursing homes, and (iii) personal assistance versus 'cluster care'.	2005	9/10 (AMSTAR rating from Program in Policy Decision-making)	0/4	4/4	1/4

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>Personal assistance was generally preferred over other services; however, some people prefer other models of care.</p> <p>This review indicates that personal assistance probably has some benefits for some recipients and caregivers. Paid assistance probably substitutes for informal care and may cost government more than alternatives; however, the total costs to recipients and society are currently unknown.</p>					
	<p>Review regarding prevention of disability in community-dwelling physically frail older persons (130)</p>	<p>There is an indication that relatively long-lasting and high-intensive multicomponent exercise programs have a positive effect on activities of daily living and instrumental activities of daily living for community-living moderate physically frail older persons.</p> <p>No evidence was found for the effect of nutritional interventions on disability measures.</p> <p>The physical exercise interventions involved 2 single-component programs focusing on lower extremity strength and 6 multi-component programs addressing a variety of physical parameters.</p> <p>Out of 8 physical exercise interventions, three reported positive outcomes for disability.</p>	<p>2007</p>	<p>7/10 (AMSTAR rating from Program in Policy Decision-making)</p>	<p>1/10</p>	<p>10/10</p>	<p>10/10</p>

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		There was no evidence for the effect of single lower extremity strength training on disability.					
	Assessment of the options for intermediate-level care to bridge the gap between the hospital and home-based care (129)	<p>Evidence supports intervention programs that provide services to reduce and prevent falls.</p> <p>Discharge planning arrangements showed some beneficial effects on subsequent readmission to hospital.</p> <p>Outcomes for selected patients in hospital-at-home schemes seems to be as good as standard hospital care, although studies have used many different outcome measures.</p> <p>Most of the published data on the care needs of older emergency patients are descriptive with minimal evaluation of the effect of the interventions on patient outcomes.</p> <p>The current disease-oriented and episodic models of emergency care did not provide enough evidence to adequately respond to the complex care needs of older patients experiencing multiple and often interrelated medical, functional and social problems.</p> <p>Various case management models including a post acute care program (PAC), a short-term case management by an advanced practice nurse, an integrated community care program, case managers for patients discharged</p>	2003	8/11 (AMSTAR rating from Program in Policy Decision-making)	4/39	39/39	Not reported

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		from hospital, and integrated home care program guided by a case manager, generally showed benefits to patients.					
	Assessment of 'home-based' versus 'centre-based' physical activity programs on the health of older adults (166)	<p>In the short-term, centre-based programs are superior to home-based programs in patients with peripheral vascular disease. There is a high possibility of a training effect as the centre-based groups were trained primarily on treadmills (and the home-based were not) and the outcome measures were treadmill based.</p> <p>There is conflicting evidence which is better in patients with COPD. Home-based programs appear to be superior to centre-based programs in terms of the adherence to exercise (especially in the long term)</p>	2002	10/10 (AMSTAR rating from Program in Policy Decision-making)	0/8	6/6	0/6
	Appraisal of home visiting programs that offer health promotion and preventive care to older people (135)	<p>Home visits were associated with a significant reduction in admissions to long term institutional care and a reduction in mortality for members of the general elderly population, however no reduction in hospital admissions within the same group.</p> <p>Evidence shows that the effect of home visits did not depend on whether the intervention was targeted at elderly people who are at risk or whether it was delivered more widely</p>	1997	8/10 (AMSTAR rating from Program in Policy Decision-making)	1/15	15/15	5/15
	Assessment of the effectiveness of intensive home visiting programs targeting older people with poor health or otherwise	Results showed no statistically significant favourable effects of home visits compared to control for any of the included measures	2007	8/10 (AMSTAR rating from Program in Policy Decision-	1 /6	6/6	2/6

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	with functional impairments (122)	(mortality, health status, mental health, social functioning, hospital admission, nursing home admission, home for older person, medical specialist contacts, general practitioner contacts, home nursing care, home help and financial evaluation.		making)			
	An assessment of preventive home visits on functional status, nursing home admission, and mortality.(136)	Interventions were those that were in-home programs targeted at those patients older than 70 years. Preventive home visitation programs appear to be effective, provided the interventions are based on multidimensional geriatric assessment and include multiple follow-up home visits, and target persons at lower risk for death.	2001	8/11 (AMSTAR rating from Program in Policy Decision-making)	1/18	18/18	Not reported
	A review of the effect of home visit programs on mortality, nursing home admissions, and functional status decline (134)	Preventive home visit programs focusing on younger study populations produced significant beneficial effects on mortality, however these same effects were not seen in older population groups. Programs prevented or significantly delayed functional status decline if they included a clinical examination as part of the initial assessment. Evidence shows multidimensional preventive home visits have the potential to reduce disability burden among older adults with multiple coexisting risk factors.	2007	10/11 (AMSTAR rating from Program in Policy Decision-making)	1/21	21/21	2/21
	Assessment of psychiatric outreach services that provide mental health assessment and	The studies highlight the gatekeeper model (non-traditional community referral sources) in comparison with	2004	2/9 (AMSTAR rating from Program in	Not reported	14/14	Not reported

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	treatment to older adults in their homes or communities (84)	<p>traditional referral sources (medical providers, family members, informal caregivers, or other concerned persons).</p> <p>Findings suggest that the gatekeeper approach reaches individuals who are less likely to gain access to services through conventional referral approaches, however they were also found to be less likely to use services.</p> <p>Twelve studies (of the 14 included in the review) found that home and community-based treatment of psychiatric symptoms were associated with improved or maintained psychiatric status.</p>		Policy Decision-making)			
	Assessment of the effectiveness of active-recruitment outreach programs for the depressed elderly (83)	<p>Review focused on studies in which depressed elderly were recruited from the community, however , these depressed persons who volunteer for a research program may be different from depressed persons who participate in regular outreach programs.</p> <p>Overall, evidence indicates strong beneficial effects for interventions in which depressed elderly are actively recruited from the community</p>	1997	4/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	14/14	Not reported
	A review of the effects of preventive home visits to elderly people living in the community (123)	Favourable effects of the home visits were observed in 5 out of 12 trials measuring physical functioning, 1 out of 8 measuring psychosocial function, 2 out of 6 measuring falls, 2 out of 7	1999	8/11 (AMSTAR rating from Program in Policy Decision-making)	1/15	15/15	1/15

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		<p>measuring admissions to institutions, and 3 of 13 measuring mortality.</p> <p>None of the trials reported negative effects.</p> <p>The review concluded that there is no clear evidence in favour of the effectiveness of preventive home visits to elderly people living in the community.</p>					
Social engagement supports	Review of the mechanism by which social supports improve health outcomes (133)	<p>The different forms of support interventions generally produced encouraging results, however this crude summarization is of limited use because of the different types of interventions, delivery formats, and populations included in the studies.</p> <p>The research reviewed very tentatively suggest that support provided by friends and/or family members and by peers is beneficial and that social support skills training may be especially useful.</p>	2000	3/10 (AMSTAR rating from Program in Policy Decision-making)	Not reported	6/14	2/14
Social capital	To identify what people value when they provide unpaid care for an older person	Found six attributes of the caring process: care-recipient relationship (e.g., feelings such as love, friendship and reciprocity), institutional support (e.g., respite care and time off work), informal support (e.g., emotional support the carer receives from family, friends and neighbours), activities outside caring (i.e., engagement outside of the caring role), control (e.g., ability to manage caring duties) and duty (e.g., perception of whether they are	2005	No rating tool available for this type of synthesis	0/6	6/6	Not reported

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
		fulfilling a duty by providing care).(137)					
Liveable and accessible communities	No reviews identified	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Supportive housing	Review of the wider social determinants of health through the implementation of appropriate interventions to highlighting areas for further development (86)	Research evidence indicates that certain categories of intervention may impact positively on inequalities or on the health of specific disadvantaged groups, particularly interventions in the fields of housing and the work environment.	2007	Not yet available	Not reported	2/30	Not reported
	Review assessing whether family housing subsidies effectively improve household health outcomes (89)	Included studies focused on mixed-income housing developments, defined as a publicly subsidized multi-family rental housing in which the deliberate mixing of income groups is a fundamental part of their operating and financial plans. Tenant-based rental assistance programs for low-income households were also a central focus. Evidence indicates such programs are recommended to improve household safety, due to reductions in exposure to neighbourhood crimes. The analysis was inconclusive regarding the effectiveness of programs on housing hazards, youth risk behaviours, and psychological and physical morbidity due to study quality.	2000	Not yet available	Not reported	0/12	0/12
	A broad assessment of the effectiveness of current public health interventions related to	Policy based interventions, though having limited evidence, seemed to be relatively cost-effective, while	2001	Not yet available	0/72	9/72	Not reported

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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 focused on older adults	Proportion of studies that deal explicitly with one of the prioritized groups
	housing (167)	<p>information/ counselling may increase the presence of inexpensive and available improvements.</p> <p>Technological interventions are generally successful, however more so when the technology is effective, cheap, and durable, requiring minimal maintenance.</p> <p>For all interventions, those which involved people more deeply in solving their health problems are especially effective at improving multiple health outcomes by promoting fuller human development, improving social functioning and psychological well-being as well</p>					