Health Care in Canada, 2011

A Focus on Seniors and Aging
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To help improve Canada’s health system and the well-being of Canadians by being a leading source of unbiased, credible and comparable information that will enable health leaders to make better-informed decisions.
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About the Canadian Institute for Health Information

The Canadian Institute for Health Information (CIHI) collects and analyzes information on health and health care in Canada and makes it publicly available. Canada's federal, provincial and territorial governments created CIHI as a not-for-profit, independent organization dedicated to forging a common approach to Canadian health information. CIHI’s goal: to provide timely, accurate and comparable information. CIHI’s data and reports inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health.

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Want to Know More?

CIHI welcomes comments about this report and would like to know how future reports can meet your information needs. Please send an email with your comments to healthreports@cihi.ca.

Visit CIHI’s website (www.cihi.ca) for more specific information about any area of interest or research involving health care in Canada. Highlights and the full text of *Health Care in Canada, 2011: A Focus on Seniors and Aging* are available free of charge in English and French on CIHI’s website.
Executive Summary

In 2011, the first members of Canada’s baby boom generation will turn age 65. It is predicted that as early as 2015, seniors (those age 65 and older) will outnumber youth (those age 14 and younger). Concerns have been raised that Canada’s health care system will be unable to meet the growing health care needs of this aging population. Seniors are typically frequent users of health care services, with the system spending more on them than on any other segment of the population. Federal, provincial and territorial governments have all recognized the importance of improving services for seniors. Making any such improvements first requires an understanding of this diverse and complex population. *Health Care in Canada, 2011: A Focus on Seniors and Aging* describes seniors’ specific needs and the particular ways in which this population uses the health care system. From this perspective, the report examines the impact of a growing seniors population on Canada’s health care system.

The report opens by describing the current demographic shift into an accelerated period of population aging and the characteristics of today’s seniors. With the first of the baby boom generation turning age 65 in 2011, seniors will account for an increasingly larger proportion of the Canadian population (about 25% by 2036). An examination of the health status of these seniors shows that, overall, they are living longer than seniors from previous generations and are healthier than ever before. However, with increasing age, the differences in capacity to carry out activities of daily living and number of chronic conditions become more apparent. On these measures, the youngest seniors (age 65 to 74) appear more similar to adults age 45 to 64.

The report next explores the degree to which aging has contributed to increases in public health expenditures over the past 10 years and whether the health care needs of an aging population may become a bigger cost driver in the near future. While health spending per capita on seniors is more than four times that of non-senior adults (age 20 to 64 years) in absolute terms, the rate of spending growth for seniors was actually lower over the past 10 years than the rates for non-senior adults. Over the last decade, population aging has contributed relatively modestly to rising public-sector health care spending, adding less than 1% to public-sector health spending each year. This result may appear counterintuitive when considering seniors’ use of health care services; compared with non-senior adults, seniors are proportionately higher users of hospital and physician services, home and continuing care, and prescription drugs.
The remaining chapters of the report follow seniors across settings of care, from primary health care to home and residential care settings. Many seniors depend on strong primary health care and prescription medications to help manage an increasingly complex mix of health conditions and protect their health. While the majority of Canadians (95%) older than age 65 have a regular family doctor, some reported challenges accessing their doctor when they needed care. Visits to family doctors are more frequent among seniors with multiple chronic conditions. Survey findings show that it is the increasing number of chronic conditions, rather than increasing age, that drives primary health care use. Data on the use of prescription medication echoes these findings, with the proportion of seniors taking multiple prescription medications rising in recent years. Nearly two-thirds of seniors on public drug programs have claims for 5 or more drugs from different drug classes, and nearly one-quarter have claims for 10 or more. More than half of seniors on public drug programs regularly use prescription drugs to treat two or more chronic conditions, and among this group, the most commonly used medications were for treating high blood pressure and heart failure (used by 65% of this group).

The vast majority (93%) of seniors live in private households. Although most prefer to maintain their independence, some require formal and/or informal support to do so. In terms of formal support, an estimated 1 million Canadians receive home care at any given time; about 8 out of every 10 of these are seniors. The services provided to them vary by age and need and include both home health and home support services. In contrast, most informal care (about 80%) comes from unpaid family members, friends and neighbours. As the time they spend providing care increases, so does the distress they experience. Recent data shows that 32% of caregivers who provide more than 21 hours of care per week report distress in their role—four times the proportion of distressed caregivers who provide less than 10 hours of informal care per week. In comparison to home care clients, seniors in residential care are more likely to be older, unmarried and functionally dependent, more than twice as likely to show signs and symptoms of possible depression, but almost half as likely to report daily pain.

As with Canadians of all ages, seniors who become acutely ill may require care in hospital, where they could encounter issues related to patient flow and appropriateness of care. Seniors who arrive at the hospital may first make contact with the emergency department, where they are likely to stay longer than non-senior adults. Also related to patient flow is alternate level of care (ALC) stays. Patients are considered ALC patients when they have completed the acute care phase of their treatment but remain in an acute care bed. Nearly 85% of all ALC patients are age 65 or older and many (35%) are age 85 and older. As hospitals work toward addressing patient flow issues, the reasons for hospitalization will likely come into question. For example, questions have been raised about the appropriateness of receiving end-of-life care in hospitals, given seniors’ general preference to die in their own homes.
Looking Forward: Upcoming Challenges

The aging of Canada’s population has brought several issues to the forefront for health care decision-makers. The increasing number of seniors itself will not threaten Canada’s health care system, but it will require the system to adapt to meet changing health care needs. Among those challenges: to what extent the Canadian health care system has met seniors’ needs to date, how it will likely need to adapt to continue to meet these needs into the future and how Canadians’ health care needs may change as the population shifts over the next 20 to 30 years. Analyses such as those presented in this report, across a wide range of health care services, provide information to help policy-makers understand seniors’ current needs and to help inform decisions when planning for the future.

Having a system that is responsive to seniors’ needs will become increasingly important as Canada’s population ages. To this end, the conclusion of Health Care in Canada, 2011: A Focus on Seniors and Aging summarizes several strategies identified by researchers and decision-makers. These include improving integration of care across the continuum, focusing more on primary and secondary prevention measures, adopting and making efficient use of new technologies, and collecting better information to inform decision-making. Many of these approaches have at least, in part, already been built into existing provincial and territorial plans. However, as policy-makers will likely have to make complex decisions in the near future to ensure that Canada’s health care system is able to accommodate the needs of the rising number and proportion of seniors in the population, these are areas suggested by experts on which to focus specific attention.
Introduction

Health Care in Canada, 2011: A Focus on Seniors and Aging is the 12th in a series of annual flagship reports that provides current information on the status of the health care system and the health of Canadians. Since 2000, the Health Care in Canada series has served to inform CIHI’s stakeholders—including policy-makers, health system decision-makers and researchers—on current priorities in health care. This year’s report focuses on the fastest-growing segment of the Canadian population: seniors.

As in many developed countries around the globe, Canada’s population is aging. In 2010, about 14% (4.8 million) of Canadians were seniors (those age 65 and older).1 By 2036, this proportion will rise to about 25% (10.4 million).2 In 2011, the first members of the largest birth cohort in Canada’s recent history—the baby boom generation—turned age 65.3 As a result, the aging of Canada’s population has accelerated.2,3

While Canada’s population is still relatively young compared with that of many other developed nations,3,4 its accelerated aging has raised some alarm bells. Members of the media and the general public have expressed concerns that Canada’s health care system will be unable to meet the growing health care needs of an aging population and have called into question the overall sustainability of the system as a result.5 Research, however, suggests that population aging has contributed only modestly to increases in health expenditure to date.6–8 Instead, the evidence points to factors beyond population aging, such as general population growth and general health service utilization patterns, that will likely require Canada’s health care system to change and adapt.7–9

Still, the costs and resource needs of health and social care for seniors should not be underestimated. About 45% of provincial and territorial governments’ health care expenditure in 2009 was spent on seniors,10 yet this group accounts for only 14% of the population. Seniors are more frequent users of several sectors of Canada’s health care system11 and utilize the system in different ways and with different intensity than other age groups. However, today’s seniors are also redefining aging.12 Available evidence suggests that Canadian seniors are healthier and more engaged in society than ever before.13,14 Trends in the use of health services also suggest that the health care needs of seniors in both community and institutional settings are rapidly changing.15–17
As the number and proportion of seniors in Canada’s population grow, the impact of population aging on public health care expenditures will likely also grow. The effects of an aging population on health care system resources may be mitigated by promoting a system that is responsive to the needs of this diverse population. Federal, provincial and territorial governments have all recognized the importance of improving services for seniors as the Canadian population ages. Of priority is ensuring that their needs are being met by the right programs and services at the right time.

**Recommended Priority Areas for Policy Change in Seniors’ Services**

In 2005, the Federal/Provincial/Territorial Ministers Responsible for Seniors endorsed a framework for action toward healthy aging prepared by the Public Health Agency of Canada. It identified five priority areas for policy and program change: social connectedness, physical activity, healthy eating, falls prevention and tobacco control. In November 2006, a Special Senate Committee on Aging was appointed to examine whether seniors’ needs were being appropriately met by existing health and social programs and services.

A number of healthy aging strategies and frameworks have since been developed by provincial governments across Canada. All underscore the importance of responding to the growing and complex needs of an aging population across a wide range of policy areas. In his 2010 *Report on the State of Public Health in Canada*, the Chief Public Health Officer again put forward priority areas for action toward healthy aging in Canada, including access to care and services, knowledge of seniors’ health and improved data.

Also in 2010, the Canadian Health Services Research Foundation held a series of roundtable discussions across the country. The discussions with system decision-makers, care providers and researchers focused on a variety of issues affecting Canada’s seniors, including the system’s financial sustainability, integrating health and social care across the care continuum and improving the recruitment and retention of medical professionals. It was noted that, with seniors living longer and with more chronic diseases, the current acute care–centred model of health care delivery may need to be adapted to meet the growing, complex health care needs of this population. Other recommendations included promoting a positive view of aging and improving access to health data.
Health Care in Canada, 2011: A Focus on Seniors and Aging examines the impact of a growing seniors population on Canada's health care system. It describes Canada's seniors, discussing not only their health status but also how they use a wide range of health care services. At its conclusion, the report summarizes ways in which the system may need to adapt to meet seniors’ current and future needs.

Health Care in Canada, 2011: A Focus on Seniors and Aging is divided into three parts:

Part 1: Population Aging and Its Impact on the System’s Sustainability
The first section of this report presents information on seniors’ current utilization of health care services. It considers how healthy Canada's seniors are by several measures, while acknowledging the diversity within the seniors cohort. Part 1 also provides an overview of the impact that aging and other factors have had on increases in public health expenditures to date for some key components of the health care system. With Canada's population set to enter a period of relatively rapid aging, the system's future sustainability is discussed.

Part 2: The Health Care Needs of Canada’s Aging Population
As people age, their care needs change. The next four chapters examine the health and health care needs of Canada's seniors. Part 2 looks at care needs along a continuum from community to institutionalized living, as well as care at the end of life. The description of seniors’ use of primary health care and prescription medications serves to highlight that, with advancing age, people develop an increasingly complex mix of health conditions and drug requirements, both of which need to be managed.

Chapters on long-term care at home and in residential care settings provide information on how seniors’ needs in these settings are being addressed. Finally, Part 2 discusses how the system is meeting the needs of seniors when they become acutely ill, by looking at the care they receive in emergency departments and acute care hospitals, as well as at the end of life.

Part 3: Looking Forward
The concluding chapter of Health Care in Canada, 2011 highlights four key areas that have been identified by researchers and decision-makers to consider in addressing the health care needs of an aging population. To adapt to future needs, it has been suggested that the system will need to improve integration of care across the continuum, focus more strongly on primary and secondary prevention, adopt and efficiently use new technologies, and improve the quality of available health care information to help policy-makers and other health care system stakeholders make sound and informed decisions.
References


8. A. Constant et al., Research Synthesis on Cost Drivers in the Health Sector and Proposed Policy Options (Ottawa, Ont.: Canadian Health Services Research Foundation, 2011).


As the first of the baby boom generation turns age 65 in 2011, seniors will account for an increasingly larger proportion of the Canadian population (about 25% by 2036).
Chapter 1
A Profile of Canada’s Seniors Today and Into the Future

Understanding the health status of seniors in Canada can help inform decisions about how best to meet seniors’ current and future health care needs. In many ways, seniors’ health status determines their service needs. And changes in the collective health status of seniors at the population level can point to emerging areas of need.

This chapter describes the changing demographics and profiles the diverse health status of Canada’s seniors population. It examines variations in life expectancy, functional capacity, multi-morbidity and income distribution. It highlights that, by several population measures, today’s seniors are living longer and are healthier than ever before. Findings for some measures show that the youngest seniors are actually more similar to non-senior adults, underscoring the diversity within the cohort.

Population Aging: Growth in Canada’s Senior Population

Population aging describes an upward shift in the age structure of a population, as a function of birth and death rates and migratory patterns to and within countries. In Canada, population aging has occurred over many decades, mainly as the result of both increasing life expectancy and declining fertility rates. And for many regions in Canada, population aging is also due to the out-migration of youth.

Seniors (those age 65 or older) now account for a growing proportion of the Canadian population. Between 1986 and 2010, the number and proportion of Canadian seniors increased from 2.7 million to 4.8 million and from 10% to 14% of the population. Between 2011 and 2031, all members of the baby boom generation—Canada’s largest birth cohort (born between 1946 and 1965)—will turn 65. As a result, both the number and proportion of seniors in the population will climb. After 2031, population aging is expected to continue, but at a less rapid pace.
As early as 2015, the proportion of seniors in the population will surpass the proportion of youth. The working-age segment of the population (those age 15 to 64) is projected to decrease over the next 25 years. At the same time, the labour force participation rate is expected to rise, the result of sustained population growth due to ascending birth rates and projected moderate immigration levels.

**Figure 1: Composition of the Population, by Age, Canada, 1971 to 2051**

Notes
Population projections assume a medium population growth scenario based on historical growth and related demographic factors, such as total fertility rate, life expectancy at birth, international immigration, emigration and interprovincial migration.
Birth rates are projected to increase after 2031 as a result of rising fertility rates since 2002 and as more immigrant women and women from birth cohorts following the baby boom generation become of childbearing age. Higher-than-expected immigration levels into the future would also have the effect of elevating birth rates and expanding the labour force; however, interpretation of this factor independent of others that contribute to population growth dynamics is cautioned.

**Sources**
Defining Seniors

In Canada, age 65 is generally understood to be the defining age for seniors.\(^3\),\(^6\) It is at this age when many Canadians begin to receive social services, such as government pensions.\(^7\) At one time, 65 was considered the mandatory age for retirement in Canada; however, this is no longer the case in most provinces and territories,\(^8\) with many people working well into their 60s and beyond. The Organisation for Economic Co-operation and Development (OECD) also defines seniors as age 65 and older, allowing for comparability across member countries, although there is some variation.\(^9\)

Among researchers and others, however, there is no true consensus on this definition. Some argue that rising life expectancies worldwide mean that age 65 can no longer be regarded as the start of older age.\(^10\) They also assert that, since seniors age differently, combining all people age 65 and older into one cohort results in a group so diverse there is no longer a common experience across it.\(^11\)

Many of the analyses in this report are restricted to those age 65 and older. Comparisons are made with younger adults and, where possible, with subgroups of the age 65 and older cohort—those age 65 to 74, 75 to 84, and 85 and older.

Variation in Aging Across Canada

The populations of all provinces and territories across Canada are aging. However, population aging has not been uniform across jurisdictions. The Atlantic provinces currently have the highest proportions of seniors (ranging from 15% to 16%), while the territories account for the lowest (3% to 8%). By 2031, the greatest increases will have occurred in both the Atlantic provinces and in the territories.
By 2031, the proportion of seniors will have nearly doubled in the Atlantic provinces and nearly tripled in the territories. In absolute terms, the greatest number of seniors will continue to reside in Ontario and Quebec, the most populous provinces in Canada. In 2010, all provinces except Alberta had population proportions of seniors within 2% of each other; by 2031, this range will have increased to about 10% for all provinces.

Future growth in Canada's senior population is also expected to vary by area. On average, Canada's smaller cities and rural regions are projected to experience faster population aging than larger cities and the regions immediately bordering them. As younger adults leave to find work in urban centres, rural areas are projected to have higher proportions of older residents, although the majority of seniors will continue to live in urban centres.\textsuperscript{1,5} The aging of rural populations will likely be compounded by the majority of immigrants continuing to settle in urban areas.\textsuperscript{5}
Chapter 1: A Profile of Canada’s Seniors Today and Into the Future

Population Aging Around the World

Canada’s population remains younger than those of many industrialized countries, despite population aging. There are no benchmarks against which to formally determine whether a population is “aged.” However, by comparison, countries such as Japan and Italy may be considered aged societies, with seniors accounting for more than one-fifth of their total populations in 2010 (23% and 21%, respectively) and expected to account for close to one-third by 2031 (32% and 28%, respectively).

In the early stages of the transition, Canada may look to other nations to anticipate the economic impact of population aging. In 2010, Japan and Italy had fewer working-age adults (2.63 and 2.96, respectively) to support every senior, lower than the number for Canada (4.46) and the average for OECD countries (4.12). Although some suggest that this indicates a higher health care cost burden for the working-age population in Japan and Italy than in Canada, data on health expenditures suggests a different interpretation. Despite its younger population, Canada had higher total health care spending, both as a percentage of gross domestic product (10.3%) and per capita ($4,024), than Japan (8.5% and $2,878, respectively) or Italy (9% and $3,059) in 2008.

Changing Profile of Canada’s Seniors

Although most seniors are in the youngest age range of this group (65 to 74), the proportion of the most elderly seniors (85 and older) is growing rapidly. In 2010, about 53% of seniors were between age 65 and 74, 33% were between age 75 and 84 and 13% were 85 and older. This latter group accounted for 2% of the total population of Canada in 2011.

In 2031, those age 85 or older will account for a similar proportion of all seniors but 3% of the total population of Canada. By 2052, these proportions will have nearly doubled: the eldest seniors (age 85 and older) will account for 24% of all seniors and 6% of the total population. And after 2031, the proportion of the youngest seniors (age 65 to 74) will decline.

Most seniors are women, especially among the older age groups. For example, women accounted for 52% of seniors age 65 to 74 and 60% of seniors age 75 and older in 2010. Women will continue to outnumber men into the future; however, this gender split will become more even as the age gap in life expectancy narrows for men and women.

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i. The old-age support ratio compares the number of working-age adults (age 20 to 64) relative to the number of seniors (65 and older). It does not adjust for labour force participation rates among seniors or working-age adults.

ii. Per capita data is in U.S. dollar purchasing power.
Life Expectancy

Life expectancy at birth in Canada and worldwide has been increasing for many decades. In particular, life expectancy at age 65 has been rising in most developed countries. This is attributed to a combination of factors that impact health status both before and after people reach age 65, including advances in medical care, improved public health (such as decreased smoking rates), higher educational attainment and per capita income and increases in total health care spending. In fact, research in Canada also shows a reduction in the difference in income-related mortality for some diseases, including ischemic heart diseases.

Life expectancy has continued to increase for Canadians of both sexes since 1961. While life expectancy among women at age 65 remains greater than that for men, there is some evidence that this gap is beginning to narrow.

Figure 3: Life Expectancy at Age 65, by Sex, Canada, 1961 to 2006

Source
In 2006, Canadian women who had reached age 65 were expected to live 86.1 years on average, while men were expected to live 82.9 years. By 2036, it is projected that women will live until age 87.3 and men until age 84.0. This difference between the sexes in life expectancy at age 65 has persisted since at least the early 1900s. Researchers have suggested that it is driven, in part, by men's historically higher exposure to modifiable risk factors, such as smoking and alcohol consumption. However, life expectancy at age 65 has increased at a faster rate for men than for women since the late 1980s, due to a sharp decline in cardiovascular mortality for men over this same period. As a result, the gender gap in life expectancy has narrowed.

Disparity in Life Expectancy for Canada’s Aboriginal Populations

While life expectancy is increasing for both men and women across Canada, there remain distinct populations who are not experiencing equal gains. For example, life expectancy among Inuit seniors is, on average, significantly lower than that for the general Canadian population. Although most Aboriginal Canadians continue to live in urban centres and have a diverse socio-economic profile, many First Nations, Inuit and Métis communities are located in geographically isolated areas and have higher levels of poverty than other areas of Canada.

Socio-Economic Status

Socio-economic status—defined as income and education—is among the known non-medical or social determinants of health that also affects when and how health care is used.

Differences in life expectancy at age 65 were seen when socio-economic status was taken into account. Compared with those from poorer neighbourhoods, senior men living in Canada’s wealthiest neighbourhoods had longer life expectancies. In 2000–2001, men age 65 and older in the highest neighbourhood income tercile could expect to live 1.1 years longer than senior men in the lowest tercile. In contrast, senior women from the wealthiest neighbourhoods did not live longer than their counterparts in the poorest neighbourhoods. In fact, they lived 0.2 years less on average. More research is required to understand why patterns in life expectancy at age 65 differ for men and women by socio-economic status.

iii. Neighbourhood income terciles are derived by dividing the range of incomes in neighbourhoods belonging to a census enumeration area into three equal parts: lowest, middle and highest income.
Generally, studies show that socio-economically disadvantaged seniors have poorer health status than their wealthier and more educated counterparts, although this effect lessens with increasing age.\(^iv\)\(^,\) \(^26\) Older adults age 60 to 69 from lower socio-economic groups are less likely to engage in health-promoting behaviours, such as screening for colorectal cancer.\(^27\) Older adults age 50 and older from lower socio-economic groups are also more likely to engage in health-harming behaviours, such as smoking.\(^28\) The reasons for these behaviours are complex and the research in general is inconclusive for older adults. Low-income seniors are also more likely to live in neighbourhoods with fewer health-promoting features.\(^26\) And despite universal access to health care in Canada, seniors with fewer personal resources, including health, wealth and social support, are also more likely to experience barriers to accessing health care.\(^26\)

**Income**

Overall, seniors' income from all sources has grown over time. Average total income increased for both seniors families\(^v\) and unattached seniors between 1998 and 2008.\(^29,\) \(^30\) As well, fewer Canadian seniors and seniors families were considered low income or fell below low-income cut-offs between 1998 and 2007.\(^31\) Fewer seniors also relied on public income-security programs for their income, such as Old Age Security (OAS) and the Guaranteed Income Supplement (GIS). The proportion of seniors' total income from the OAS and the GIS declined between 1998 and 2008.\(^32\) Instead, more relied on retirement savings and other income sources.\(^vi\)\(^,\) \(^32\)

Although income has increased generally across Canada, the income gap in retirement between the sexes has remained. In 2008, the mean after-tax income from all sources for women older than age 65 was 65% that of men, unchanged from the mid-2000s. In 2008, this translated to an annual income difference of $13,300 ($24,800 versus $38,100).\(^32\)

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\(^iv\) The lessening of this effect may be due, in part, to a survival effect for seniors of low income who are also in good health. Low-income seniors in good health may be more likely to outlive their counterparts in poor health and, therefore, may also increasingly comprise this socio-demographic group with age.

\(^v\) "Seniors families" are those in which the major income earner is age 65 and older.

\(^vi\) Caution must be used when interpreting these statistics. Changing characteristics of the financial system, such as unemployment rates and the performance of investment markets, also impact these trends.
Health Status of Canada’s Seniors

Seniors are now living longer on average than they did a decade ago.\textsuperscript{15} For health system planning, it is important to understand whether or not these added years are lived in good health. Although life expectancy is a useful indicator, it measures quantity—not quality—of life.\textsuperscript{33} Other measures of health status can be used to better understand how healthy Canada’s seniors are during these additional years of life.\textsuperscript{34} Two indicators with similar methodology and inclusion and exclusion criteria—functional status and multi-morbidity—are discussed here.\textsuperscript{vii} Together, they illustrate that Canada’s seniors are generally healthy well into their later years. They also show that the health status of younger seniors appears more similar to that of adults younger than age 65. Declines in health status and higher health care use are more likely to be driven by chronic disease than by age itself.\textsuperscript{37}

Functional Capacity

Functional capacity is an indicator of one’s ability to carry out everyday tasks. It provides a measure of independence, which is of particular concern to seniors’ health and quality of life. Functional capacity takes into account both basic activities of daily living (ADLs)—walking, bathing, toileting, eating and dressing—and instrumental activities of daily living (IADLs)—shopping, housekeeping, food preparation, etc.\textsuperscript{34, 35}

Overall, there is great variability in the reported limitations in functional capacity of seniors, underscoring the diversity in health status within this large group. In a 2008–2009 survey, the majority of Canadians younger than age 85 did not report any limitations in functional capacity. However, by age 85, the majority had at least mild limitations. The youngest group of seniors reported limitations similar to those reported by adults age 45 to 64.

\textsuperscript{vii}. These measures of disease and disability were chosen because they are based on comparable survey instruments with similar methodology and sampling populations. As used here, chronic disease comorbidity is a measure of chronic disease prevalence. Limitation in functional capacity is a proxy measure for disability severity.
With age, losses of functional capacity become more common and more severe. Most people with a limitation in functional capacity younger than age 85 reported only mild limitations. However, one-quarter (25%) of all seniors 85 and older reported a moderate (15%), severe (5%) or total (5%) limitation in functional capacity.

The most common reported functional capacity limitation across all ages was an inability to perform housework without assistance: 14% of all seniors were unable to do so. Other common functional capacity limitations among seniors included the inability to

- Shop without assistance (10%);
- Go places without help (10%); and
- Prepare meals (5%).

Inabilities to perform ADLs were rare in those age 84 or younger but became more common over the age of 85. More than 1 in 10 seniors older than age 85 could not

- Bathe or shower without help (15%);
- Walk without help (11%); or
- Use the washroom easily (10%).
Multiple Chronic Conditions

In the 2008 Canadian Survey of Experiences With Primary Health Care, about three out of every four Canadian seniors (76%) reported having at least 1 of 11 chronic conditions, compared with one in every two adults age 45 to 64 (48%). About one-quarter (24%) of seniors reported being diagnosed with three or more of these conditions (known as multi-morbidity). With increasing age, the likelihood of having at least one chronic condition also increased. However, this likelihood did not increase for those older than age 84.37

Interestingly, older seniors, age 75 or more, did not always report higher rates of health care use than younger seniors. Rather, higher utilization was reported among those with a higher number of chronic conditions, regardless of age.37 This finding is supported by other research showing that, regardless of age, the more chronic conditions seniors had, the less likely they were to report good health. In 2009, 74% of seniors with only one chronic condition reported good self-perceived health, compared with only 27% of those with four or more.38

Health Behaviours

Several factors can affect health status beyond functional capacity and chronic conditions. Successful aging—the maintenance of physical and cognitive function, and engagement with life—is at least partly within the control of individuals through their lifestyle choices or health behaviours.26 Much research has shown that socio-economic status affects lifestyle choices.

Healthy lifestyle choices have been shown to positively impact health and quality of life into old age.39 For example, even in older age, choosing not to smoke or stopping if already started, maintaining a healthy body weight and exercising regularly can all help protect heart health.41 Overall, there were fewer senior smokers in 2010 than in 1994–1995.3,42 Obesity rates among seniors age 65 to 74 have also declined. In contrast, rates of obesity among seniors age 75 and older have risen, as has occurred in the general population age 1 to 64.43 Women age 75 or older are more likely to be obese than men of the same age, in part because they are also more likely to be physically inactive.3,4

Rising rates of obesity and low levels of physical activity among adults and the middle-to-eldest seniors threaten to increase chronic disease prevalence and morbidity into the future. In particular, the risk of developing high blood pressure and osteoarthritis is highly correlated with obesity.44 And physical inactivity increases an individual’s susceptibility to a number of chronic conditions and mental health problems.3

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viii. The 11 chronic conditions are arthritis, asthma, cancer, chronic pain, depression, diabetes, emphysema or chronic obstructive pulmonary disease (COPD), heart disease, high blood pressure, a mood disorder other than depression and stroke.

ix. While obesity can result from physical inactivity, it can also reduce the possibility of engaging in physical activity.
Conclusion

Both medical and non-medical determinants of health were profiled in this chapter to illustrate that a wide range of factors have important effects on seniors’ health and resource needs. Available data suggests that, overall, today’s seniors are living longer than seniors from previous generations and with improved health and functional status. The demographic shift to an older population in Canada will mean that the number of seniors affected by chronic conditions and functional limitations will likely grow, even if the proportion of seniors affected remains the same.

Research has shown that the number of chronic conditions a person has is more important than age in determining health care resource use. As such, health promotion and disease prevention efforts may become increasingly important as Canada’s population ages. Preventing, delaying or reducing the severity of chronic conditions may not only enhance quality of life as people age, but likely also help ease demand on limited health care resources. Chapter 2: The Sustainability of Canada’s Health Care System summarizes seniors’ current use of health care system resources. The relative contribution of population aging to increases in public expenditures on health care is provided. Taken together, this information can inform the debate about the sustainability of Canada’s health care system, in light of the aging population.
Chapter 1: A Profile of Canada’s Seniors Today and Into the Future

References


24. Canadian Institute for Health Information, Health Indicators 2011 (Ottawa, Ont.: CIHI, 2011).


Although population aging has contributed to increases in public-sector health spending, its impact to date has been relatively modest.
Chapter 2
The Sustainability of Canada's Health Care System

Debate about the sustainability of the Canadian health care system has been ongoing for several years. For many, it was brought to the forefront in 2002 with the publication of Senator Kirby's *The Health of Canadians—The Federal Role*¹ and Commissioner Romanow's *Building on Values: The Future of Health Care in Canada.*² These reports set the stage for the 2003 First Ministers' Accord on Health Care Renewal and the 2004 First Ministers' 10-Year Plan to Strengthen Health Care. As these agreements between the federal and jurisdictional governments expire in 2014, sustainability once again is gaining prominence in the public debate.

This chapter details the resources utilized—both physical and financial—to provide a wide range of health care services across the country. It draws on the definition of sustainability suggested by the Commission on the Future of Health Care in Canada:

> Sustainability means ensuring that sufficient resources are available over the long term to provide timely access to quality services that address Canadians’ evolving health needs.²

There has been a great deal of attention paid to the perceived impact that Canada’s aging population will have on the sustainability of the health care system.³⁻⁵ This chapter begins with a snapshot of seniors’ utilization of hospital services—one of the largest components of the health care system—to illustrate that, on average, seniors use more care than younger adults. It then explores the degree to which the aging of the population has contributed to increased costs over the last 10 years for hospitals, physicians and drugs. Quantitative analysis of the role of aging as a cost driver allows better understanding of its importance relative to other cost drivers. The results can inform the debate about potential cost pressures related to Canada’s aging population.
While the analysis shows that aging has not been the major driver of increased public-sector health care expenditures to date, the chapter concludes with a discussion of whether the health care needs of an aging population may become a bigger cost driver in the near future. The chapters that follow present detailed information on health care needs and the services provided as Canadians age, as understanding both needs and service delivery are key to sustaining the health care system.

**Seniors’ Use of Hospital Care**

Of all the components of Canada’s health care system, hospitals receive the greatest share (37.3%) of public-sector health care dollars. Compared with other age groups, seniors use a disproportionate amount of hospital services. For example, although they make up only 14% of the population, in 2009–2010, 40% of acute hospital stays were for patients age 65 and older. Seniors use hospital services not only more often than other age groups but also in different ways.

Figure 5 shows comparative information on hospital use for seniors and younger adults across different types of hospital care. Overall, in 2009–2010, utilization rates for inpatient services, including acute, complex continuing and rehabilitation care, were significantly higher for seniors than for non-senior adults. And among seniors, utilization increased with increasing age for all care types except outpatient services.

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i. Excludes obstetrical cases, cadaveric donors, non-Canadian residents and records with a most responsible diagnosis for mental health (ICD-10-CA diagnosis code with a prefix of F or G30).
Compared with rates for younger adults, the rate of hospital discharges for seniors is higher for all care types examined. For inpatients, the discharge rate per 100,000 seniors is 4.9 times higher for acute care, 22 times higher for complex continuing care and 11.6 times higher for rehabilitation.

Figure 5: Rate of Hospital Discharges per 100,000 Population, by Type of Hospital Care, Seniors Versus Non-Senior Adults, 2009–2010

<table>
<thead>
<tr>
<th>Type of Care</th>
<th>Rate of Hospital Discharges per 100,000 Population</th>
<th>Adults Age 20–64</th>
<th>Seniors Age 65–74</th>
<th>Age 75–84</th>
<th>Age 85+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Inpatient* §</td>
<td></td>
<td>4,395</td>
<td>21,693</td>
<td>15,316</td>
<td>25,764</td>
</tr>
<tr>
<td>Inpatient Mental Health† §</td>
<td></td>
<td>603</td>
<td>786</td>
<td>498</td>
<td>902</td>
</tr>
<tr>
<td>Inpatient Complex Continuing Care**</td>
<td></td>
<td>45</td>
<td>991</td>
<td>401</td>
<td>1,207</td>
</tr>
<tr>
<td>Inpatient Rehabilitation††</td>
<td></td>
<td>66</td>
<td>763</td>
<td>441</td>
<td>993</td>
</tr>
<tr>
<td>Outpatient‡ §</td>
<td></td>
<td>7,609</td>
<td>21,809</td>
<td>20,792</td>
<td>25,608</td>
</tr>
<tr>
<td>Emergency‡ ‡‡</td>
<td></td>
<td>29,485</td>
<td>44,043</td>
<td>35,114</td>
<td>49,955</td>
</tr>
</tbody>
</table>

Notes
- Acute Inpatient population excludes obstetrical cases, cadaveric donors, non-Canadian residents and records with a most responsible diagnosis for mental health (ICD-10-CA diagnosis code with a prefix of F or G30).
- Inpatient Mental Health population (Discharge Abstract Database and/or Hospital Morbidity Database records) excludes obstetrical cases, cadaveric donors, non-Canadian residents, acute inpatient records where the most responsible diagnosis is not a mental health diagnosis (ICD-10-CA diagnosis code without a prefix of F or G30) and facilities not designated as mental health or acute inpatient.
- No exclusions applied to Ontario Mental Health Reporting System records.
- Outpatient and Emergency populations exclude non-Canadian residents.
- Acute Inpatient, Inpatient Mental Health and Outpatient fully cover all provinces and territories.
- Inpatient Complex Continuing Care fully covers Ontario.
- Inpatient Rehabilitation fully covers Ontario and partially covers Newfoundland and Labrador, Nova Scotia, P.E.I., New Brunswick, Manitoba, Saskatchewan, Alberta and B.C.

Sources
Seniors are heavier users of hospital services and also stay longer once admitted to hospital. For example, seniors’ overall average length of stay in acute inpatient care is roughly 1.5 times that of non-senior adults (nine days versus six). A similar pattern is seen in emergency department use, with seniors having a 4-hour median stay compared with 2.5 hours among younger adults. This may be due in part to seniors using emergency departments for conditions that could be treated in other settings, such as primary care. For example, in 2008–2009, 9% of all seniors’ visits to emergency departments in Ontario were for ambulatory care sensitive conditions, compared with only 3% for non-senior adults.\(^8\) Alternatively, owing to their advanced age and/or the presence of comorbid conditions, seniors may be held longer for observation to ensure that they are healthy enough for discharge. In contrast, in inpatient complex continuing and rehabilitation care settings, seniors have shorter lengths of stay than non-senior adults.\(^8\) Figure 6 provides a detailed breakdown by type of care.

\(^{ii}\) Patients who died in these institutions (about one-third of all patients) were included in the analysis.
Seniors stay longer than younger adults in emergency departments and in acute and mental health care settings. However, younger adults remain longer in inpatient complex continuing and rehabilitation care, as well as in outpatient settings.

### Figure 6: Average Lengths of Stay, by Type of Care, Seniors Versus Non-Senior Adults, 2009–2010

<table>
<thead>
<tr>
<th>Type of Care</th>
<th>Average (Median) Overall Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adults Age 20–64</td>
</tr>
<tr>
<td>Acute Inpatient*§ (Days)</td>
<td>6 (3)</td>
</tr>
<tr>
<td>Inpatient Mental Health†§ (Days)</td>
<td>20 (8)</td>
</tr>
<tr>
<td>Inpatient Complex Continuing Care** (Days)</td>
<td>149 (31)</td>
</tr>
<tr>
<td>Inpatient Rehabilitation†† (Days)</td>
<td>34 (23)</td>
</tr>
<tr>
<td>Outpatient‡ § (Hours)</td>
<td>5.0 (4.0)</td>
</tr>
<tr>
<td>Emergency‡ ‡‡ (Hours)</td>
<td>n/a (2.5)</td>
</tr>
</tbody>
</table>

**Notes**

* Acute Inpatient population excludes obstetrical cases, cadaveric donors, non-Canadian residents and records with a most responsible diagnosis for mental health (ICD-10-CA diagnosis code with a prefix of F or G30).

† Inpatient Mental Health population (Discharge Abstract Database and/or Hospital Morbidity Database records) excludes obstetrical cases, cadaveric donors, non-Canadian residents, acute inpatient records where the most responsible diagnosis is not a mental health diagnosis (ICD-10-CA diagnosis code without a prefix of F or G30) and facilities not designated as mental health or acute inpatient. No exclusions applied to Ontario Mental Health Reporting System records.

‡ Outpatient and Emergency populations exclude non-Canadian residents.

§ Acute Inpatient, Inpatient Mental Health and Outpatient fully cover all provinces and territories.

** Inpatient Complex Continuing Care fully covers Ontario.

†† Inpatient Rehabilitation fully covers Ontario and partially covers Newfoundland and Labrador, Nova Scotia, P.E.I., New Brunswick, Manitoba, Saskatchewan, Alberta and B.C.


n/a: not available; the emergency department length of stay was generated from the Emergency Department Wait Time Indicators in CIHI Portal, which provides only the median length of stay.

**Sources**

Seniors are heavy users of hospital services, measured not only by number of visits but also by resource use during those visits. Resource Intensity Weights (RIWs) are derived from hospital case cost data and serve as standardized estimates of the relative resources used by hospital inpatients compared with those used in a typical case. Hospital planning staff can use RIWs to gain a better understanding of the relative costs associated with treating patients of varying clinical and demographic backgrounds.

In 2009–2010, the overall average RIW for inpatients in acute care hospitals was almost 70% higher for seniors, compared with non-senior adults (2.09 versus 1.23). In addition, for specific conditions and procedures, there are significant differences in resource use between senior and non-senior acute care patients. Figure 7 presents the relative resource use for the conditions that seniors are most often treated for in acute care hospitals. Data is also presented on several of the procedures identified as priorities under the 2004 First Ministers’ 10-Year Plan to Strengthen Health Care. Most jurisdictions have targeted wait time reductions for these priority procedures. (See Chapter 6 for further discussion on seniors and wait times.)
In the graph below, bars that exceed 1.00 indicate conditions for which acute care hospitals used, on average, more resources to treat seniors than to treat non-senior adults. Conversely, bars that fall below 1.00 indicate conditions for which acute care hospitals used, on average, fewer resources to treat seniors than to treat non-senior adults.

**Figure 7: Comparison of Average Acute Care Hospital Resource Use in Treating Seniors and Non-Senior Adults, for Selected Conditions and Procedures, 2009–2010**

<table>
<thead>
<tr>
<th>Priority Procedure</th>
<th>Ratio of Average RIW Seniors Versus Non-Senior Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unilateral Knee Replacement</td>
<td></td>
</tr>
<tr>
<td>Unilateral Hip Replacement</td>
<td></td>
</tr>
<tr>
<td>Influenza/Acute Upper Respiratory Infection</td>
<td></td>
</tr>
<tr>
<td>Chronic Obstructive Pulmonary Disease</td>
<td></td>
</tr>
<tr>
<td>Viral/Unspecified Pneumonia</td>
<td></td>
</tr>
<tr>
<td>Percutaneous Coronary Intervention</td>
<td></td>
</tr>
<tr>
<td>Heart Failure</td>
<td></td>
</tr>
<tr>
<td>Cardiac</td>
<td></td>
</tr>
<tr>
<td>Unstable Angina/Atherosclerotic Heart Disease</td>
<td></td>
</tr>
<tr>
<td>Angina (Except Unstable)/Chest Pain</td>
<td></td>
</tr>
<tr>
<td>Myocardial Infarction/Shock/Arrest</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Dementia</td>
<td></td>
</tr>
<tr>
<td>Palliative Care</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

The ratios presented are calculated as the average RIW of seniors divided by the average RIW of non-senior adults, in acute inpatient care hospitals in Canada in 2009–2010. All conditions and procedures listed except three—influenza/acute upper respiratory infection, cataract surgery and dementia—are among the top reasons for seniors being in acute inpatient care in 2009–2010. Cataract surgery was the top day procedure performed on seniors. See Chapter 6 for further information. Data was grouped using the CMG+ 2011 methodology.

**Sources**

Discharge Abstract Database, Hospital Morbidity Database, 2009–2010, Canadian Institute for Health Information.
In addition to using more hospital care than other segments of the population, seniors are high users of several other sectors of Canada’s health care system, including the following:

- **Continuing care**: In 2009–2010, 95% of people in residential care and 85% of people in hospital-based continuing care were age 65 and older;\(^{10}\)
- **Home care**: In 2009–2010, 82% of home care clients\(^{iii}\) were age 65 and older;\(^{11}\)
- **Prescription drugs**: In 2009, provincial and territorial governments spent an average of $1,311 per senior compared with $170 per adult age 20 to 64 for prescription drugs (this difference is explained, in part, by seniors’ heavier reliance on public sources of financing while younger adults use more private insurance and out-of-pocket payments);\(^{6}\) and
- **Family physicians**: In 2009, the share of seniors who frequently (10 times a year or more) visited their family physician was almost double the share of frequent visitors among non-senior adults\(^{iv}\) (9.7% versus 5.5%).\(^{12}\)

Seniors are also more dependent on income and social support provided by governments at all levels. According to Statistics Canada, in 2008, seniors families reported median government transfers of $24,100, compared with $2,900 for all other families.\(^{13}\)

Greater and more resource-intensive service use translates into increased health spending incurred by the provincial and territorial governments. As shown above, seniors are more frequent users of several sectors of Canada’s health system, and their pattern of use is different compared with that of other age groups. These, coupled with the expected growth in both number and proportion of seniors in Canada’s population,\(^{14}\) highlight the importance of understanding the impact that population aging has on increases in health expenditures. To help inform the debate, the following section provides detailed information on per capita health spending for two groups: seniors and younger adults age 20 to 64. In addition, an analysis is presented of the relative contribution of aging to increases in public-sector health care spending over the past 10 years.

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\(^{iii}\) Based on available data from the Home Care Reporting System.

\(^{iv}\) Adults age 18 to 64.
Per Capita Spending on Seniors

In 1998, total provincial and territorial government per capita health expenditure on Canadians age 65 and older ($6,374) was five times greater than that for adults age 20 to 64 ($1,282). Eleven years later, it was 4.5 times greater: $11,196 compared to $2,494. While the ratio was relatively stable for the first six years of this trend, it dropped sharply between 2004 and 2009 (see Figure 8).

Overall, the ratio of per capita health spending on seniors to younger adults decreased between 1998 and 2009. The decline was most noticeable between 2004 and 2009.

Figure 8: Ratio of Provincial/Territorial Government per Capita Health Spending on Seniors Versus Non-Senior Adults, 1998 to 2009

Note
Mostly, provincial and territorial governments pay for health care provided to seniors, including prescription drugs. Younger adults are more reliant on private sources, such as insurance and out-of-pocket payments.

Source
National Health Expenditure Database, 2011, Canadian Institute for Health Information.
Differential annual growth rates in major spending categories may explain, at least in part, why the ratio of per capita spending on seniors to younger adults has recently decreased. Over the past 11 years, per capita provincial and territorial government drug spending on younger adults grew faster than spending on seniors. Even though the reverse was true for per capita hospital and physician spending, the total per capita growth rate for non-senior adults surpassed that for seniors. Similarly, as a share of total public-sector health spending, expenditures on institutions other than hospitals (such as long-term care institutions) was actually declining—forecast at almost 10% in 2010, compared with 12% in 1999.15

Unadjusted for inflation, total per capita spending on seniors grew, on average, 5.3% annually during this period. The growth rate of total per capita spending on non-senior adults was higher, at 6.2% (see Figure 9).

**From 1998 to 2009, provincial/territorial per capita drug spending and total health spending on seniors increased at a slower pace than spending on non-senior adults. However, per capita hospital and physician spending on seniors increased faster.**

![Figure 9: Average Annual Rates of Growth in per Capita Provincial/Territorial Government Health Spending on Hospitals, Physicians, Drugs and Total, 1998 to 2009](image)

*Source*
National Health Expenditure Database, 2011, Canadian Institute for Health Information.
Contribution of Population Aging to Increases in Public-Sector Health Expenditures in Recent Years

After adjusting for inflation, public-sector health spending has increased considerably faster than public revenues over the past 10 years: 4.3% versus only 2.3%, annually.\(^{16}\) To better understand what is driving health care costs, CIHI’s report *Health Care Cost Drivers: The Facts* provides a retrospective analysis of macro health care cost drivers between 1998 and 2008.\(^{17}\) It explores the underlying drivers of specific spending categories, including hospitals, physicians and prescription drugs. The study’s results can contribute to the debate about the future fiscal sustainability of the health care system in the context of Canada’s aging population. The results show that, overall, although population aging contributed to spending increases, its impact to date has been relatively modest.

The study first looked at drivers of increases in public-sector health expenditures overall. The average annual growth rate in public-sector health spending between 1998 and 2008 was 7.4%.\(^{17}\) Explanatory factors that were included in the study’s analytical framework included population growth, aging, price and volume effects. Their relative contributions to the overall growth in spending were assessed. Population growth added 1% to public-sector health spending each year, while population aging was a small contributor, adding 0.8% annually.\(^{17}\) Price effects were a more significant driver.

Although there are no measures of total health sector inflation, it can be perceived in relation to general inflation. Inflation for the entire economy averaged 2.8% per year during this period.\(^{17}\) However, measures of the growth in labour compensation in the health sector—a major input into the provision of health care—exceeded this rate. Finally, the contribution of a residual, “other” category, was 2.8% each year.\(^{17}\) The “other” category includes factors such as increases in service utilization, changes in technology and health sector inflation above the rate of general inflation.
From 1998 to 2008, population growth and aging contributed differently to public-sector health spending growth in different jurisdictions. The impact of population aging relative to population growth was more pronounced in Atlantic Canada and Quebec.

Overall, the cost drivers study found substantial variation across jurisdictions in the contributions of population aging and growth to total public-sector health spending (see Figure 10). The impact of population aging relative to growth was more apparent in the Atlantic region and Quebec than in Ontario and Western Canada. Details on drivers of cost increases specific to hospitals, physicians and prescription drugs are presented below.
Chapter 2: The Sustainability of Canada’s Health Care System

Drivers of Public-Sector Spending on Hospitals

Total public-sector spending on hospitals grew steadily between 1998 and 2008, adding on average about 6.7% a year. Population growth and population aging each contributed only 1% per year. The biggest contributing factor to the growth in spending on hospitals was price effects. Labour compensation accounts for about 60% of hospital budgets. The growth in hospital wage rates exceeded annual general price inflation during the period. Trends in shifting from inpatient to outpatient procedures helped mitigate utilization as a driver.

Drivers of Public-Sector Spending on Physicians

The average annual growth of roughly 6.7% in spending on physicians was explained by two major factors. One was the average annual growth of 3.6% in fees for physician services. This was due partially to general inflation over the 10-year period and partially to a rise in fees for service, which outpaced inflation. Over the study period, physicians’ compensation grew faster than the average pay in the economy and also faster than pay in the health and social sector.

The other factor responsible for growth in public-sector spending on physicians was Canadians’ increasing use of physician services. Utilization per capita adjusted for aging accounted for average annual increases of 1.5%. For example, the number of consultations and diagnostic and therapeutic services per 100,000 population provided by medical specialists increased notably. From 1998–1999 to 2008–2009, consultations increased by 16%; diagnostic and therapeutic services increased by 49%. For surgical specialists, consultations, major surgery and diagnostic and therapeutic services all showed higher-than-average rates of increase.

In addition to these two main factors, growth in population (1%) and population aging (0.6%) contributed modestly to the total growth in public-sector spending on physicians. Spending on physicians for treating seniors (unlike spending on other major categories) grew faster than that for the general population because of changes to fee schedules. Between 1998 and 2008, a number of jurisdictions implemented higher fees or fee premiums for consultations and/or visits by seniors. Age premiums contributed to the rising cost of visits to family physicians in all provinces and territories.

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v. An age premium is the difference between a regular physician fee and a higher fee for consultation and/or visit by a senior.
Drivers of Public-Sector Spending on Prescription Drugs

Between 1998 and 2007, retail spending on prescription drugs in Canada grew from $8 billion to $19 billion, an average annual growth rate of 10.1%. In 2010, just less than half of spending for prescription drugs (forecast at 46%) came from the public purse, a share that has grown over the last decade. The main cost driver was growth in the volume of drugs consumed by Canadians, which increased spending at an average annual rate of 6.2%. For example, among five major drug classes profiled, volume increases in spending on cholesterol-lowering and gastrointestinal drugs accounted for average annual increases of 12.9% and 8.4%, respectively. For both drug classes, the rapid growth in consumption was due, at least in part, to changes in treatment guidelines.

Changes in drug mix were responsible for average annual growth in drug spending of 2.0% between 1998 and 2007. Mix effects include both changes in the selection of drug type (for example, ACE inhibitors versus beta-blockers to treat hypertension) and individual drugs within drug classes (for example, ramipril use among ACE-inhibitor users), after adjusting for population aging. Initial use of higher-cost drugs, or switching from lower- to higher-cost drugs, can both contribute to the mix effect.

Population growth and population aging each contributed 1% to the growth in retail spending on prescription drugs from 1998 to 2007. But their individual effects were substantially smaller than those of either drug volume or mix. It is also worth noting that, on average, prices of existing drugs decreased over the study period. The contribution of price changes to the total growth in retail drug spending was negative.

The cost driver analyses above highlight that, to date, aging has had a relatively modest effect on increases in public-sector health expenditures. However, the impact of aging does vary across spending categories and, for certain categories, it may be greater than the overall trend. For example, between 1998 and 2008, aging was responsible for 2.3% of average annual growth in spending on long-term institutional care (see Figure 11).

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vi. Not including drugs prescribed to hospital inpatients.
A recent CIHI study examined the drivers of increases in four categories of public-sector health expenditure. Aging was found to be a stable and modest driver of increases in public-sector health expenditure for hospitals (1%), physicians (0.6%) and drugs (1%) over the study period. Aging had a greater effect on expenditures for long-term institutional care.

Figure 11: Contribution of Aging to Average Annual Growth for Hospitals, Physicians, Drugs and Long-Term Care Institutions, 1998 to 2008

Note

Source
Contribution of Population Aging to Increases in Public-Sector Health Expenditures in the Near Future

Canada is not the only country with an aging population. Because of its relevance globally, the Organisation for Economic Co-operation and Development (OECD) has developed projections of the impact of population aging on health spending in its member countries. The projection methodology used by the OECD is different from that used by CIHI in that it estimates the share of gross domestic product (GDP) allocated to health and long-term care. CIHI’s report *Health Care Cost Drivers: The Facts* focused on public-sector health expenditure, which represents about 70% of total health spending in Canada. Although the OECD projections are not directly comparable with those from the cost driver analyses, they do allow for international comparisons of the possible future effects of aging on health system sustainability.

In 2010, the OECD projected an increase in spending on aging-related health and long-term care in selected member countries from 2010 to 2025. The OECD projected that, during this time frame, the share of Canadian GDP spent on health and long-term care will increase by 1.9 percentage points\(^{vii}\) (pp). Health and long-term care will contribute 1.4 pp and 0.5 pp, respectively, to this increase (see Figure 12).

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\(^{vii}\) Percentage points are the unit for the arithmetic difference in two percentages.
Projected increases in the share of GDP diverted toward health and long-term care spending vary substantially among 19 comparable OECD countries. Results show that Canada’s total projected age-related increase of 1.9 percentage points is similar to the overall 1.8 percentage point average across the countries included.

Figure 12: Projected Changes (in GDP Percentage Points) in Health and Long-Term Care Spending, 19 Selected OECD Countries, 2010 to 2025

In absolute terms, the projected increase is not insignificant. In dollar terms, 1.9 pp of GDP would equate to about $30.9 billion in 2010, or $905 per Canadian. This amount would translate approximately to a 1.5% average annual increase in public health expenditure. Canada differs only slightly from other comparable countries in that 1.9 pp is just above the 1.8 pp average for the 19 OECD countries included. The projected total age-related spending increases range from 0.9 pp of GDP in Australia to 2.7 pp in Japan.
The projections of growth in health and long-term care spending are influenced by demographic variables such as fertility rates and migration estimates. Some demographic variables are particularly important to the Canadian context, such as the old-age support ratio. This is the ratio of the number of working-age adults (those age 20 to 64) to the number of seniors (those age 65 and older) in a given population. A higher ratio means that more working-age adults are available to support each senior. In 2010, Canada had a favourable position on this measure: there were 4.46 working-age adults for every Canadian senior; the OECD average was 4.12. However, by 2025, Canada is expected to have only 2.84 working-age adults per senior, while the OECD average will be 3.00.

Uneven changes in the old-age support ratio across OECD countries may explain, at least in part, why growth in health and long-term care spending in Canada is expected to be above average. The aging of the Canadian population is expected to occur faster than in many other countries, not including Japan. In Canada, the proportion of persons age 65 and older is expected to go from 12% to 22% in 33 years, while the same transition will take 69 years in the United Kingdom, 61 years in France, 54 years in Germany and more than 50 years in the U.S. The reason for the faster rise in proportion is because Canada had a strong baby-boom in the 1950s and 1960s, followed by a sharp decline in fertility rates.

viii. However, this measure used by the OECD has a limitation: it does not account for labour force participation rates among seniors or working-age adults.
Conclusion

This chapter has shown that seniors are relatively high users of many health care services. For example, utilization rates for inpatient services, including acute, complex continuing and rehabilitation care, were significantly higher for seniors than for younger adults. And among seniors, hospital utilization increased with age. The majority of Canadians receiving residential care and hospital-based continuing care were seniors. This group was also significantly more likely to be taking prescription medication and visiting family physicians, in comparison with younger adults. As a result of this greater use, per capita public-sector health care spending on seniors has been higher than spending on non-senior adults, although there is some evidence to suggest that the gap has narrowed in recent years.

Considering such findings, as Canada's population enters a period of relatively rapid aging, many have called into question the ongoing sustainability of Canada's health care system. Analyses of the drivers of increases in public-sector health expenditures over the last decade showed that the contribution of aging has been relatively modest. To date, system-level cost drivers such as inflation and increased utilization have played bigger roles in health spending increases. However, projections from the OECD suggest that, between now and 2025, population aging will have a bigger impact on health and long-term care spending in Canada relative to its average impact across OECD countries.

The health care system's sustainability cannot be determined only by calculating future revenues and expenditures. Priorities identified by Canadians must also be taken into account. Health system stakeholders—including policy-makers, health care providers, researchers and even the general public—have become involved in the discourse. Such calls to work toward addressing sustainability are not new, as experts have been raising population aging as an issue for many years.
References


In 2009, about two-thirds of seniors on public drug programs were claiming 5 or more drug classes, and nearly one-quarter were claiming 10 or more.
Chapter 3
Primary Health Care and Prescription Drugs—Key Components to Keeping Seniors Healthy

The number of chronic conditions—not age—accounts for the greater use of primary health care services among seniors. Chronic disease management will therefore become increasingly important as the number and proportion of Canada’s seniors grow over the next 25 years.

As they age, many seniors develop a progressively more complex mix of health conditions. They will likely need both strong primary health care and appropriate prescription medications to help manage these conditions, and to protect their health for as long as possible.

The information in this chapter will show how two key components of Canada’s health care system—primary health care and prescription medications—are currently being used to support seniors in managing their chronic conditions.

Providing Primary Care to Seniors With Multiple Chronic Conditions

Primary health care involves both the treatment of illness and health promotion and prevention activities. It is often the first point of contact with the health system. In most cases, primary health care encompasses a wide range of medical and allied health services and providers. Primary health care providers may also help patients navigate through the continuum of care, by providing a system coordination function.

Family Physicians

Family physicians are the most common point of first contact for primary health care services. And seniors are more likely than younger Canadians to have a family physician. In 2009–2010, the majority of those older than 65 (95%) reported having a regular family physician, compared with 83% of non-senior adults (see Figure 13).
The percentage of seniors with a regular family physician ranges across the provinces from 93% in Quebec to 97% in Ontario, Nova Scotia and P.E.I. Across the country, younger Canadians were consistently less likely than seniors to report having a family physician.

Figure 13: Percentage of the Population With a Family Physician, by Age Group, Province and Territory, Canada, 2009–2010

<table>
<thead>
<tr>
<th>Province</th>
<th>Non-Senior Adults (Age 20 to 64)</th>
<th>Senior Adults (Age 65+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.C.</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td>Alta.</td>
<td>85%</td>
<td>75%</td>
</tr>
<tr>
<td>Sask.</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>Man.</td>
<td>75%</td>
<td>65%</td>
</tr>
<tr>
<td>Ont.</td>
<td>70%</td>
<td>60%</td>
</tr>
<tr>
<td>Que.</td>
<td>65%</td>
<td>55%</td>
</tr>
<tr>
<td>N.B.</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td>N.S.</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>P.E.I.</td>
<td>50%</td>
<td>40%</td>
</tr>
<tr>
<td>N.L.</td>
<td>45%</td>
<td>35%</td>
</tr>
<tr>
<td>Y.T.</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>N.W.T.*</td>
<td>35%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Notes
* Interpret with caution.
Figure does not include data for Nunavut.
Based on Canadian household population age 12 and older.
Excludes individuals living on Indian Reserves and Crown land, institutional residents, full-time members of the Canadian Forces and residents of certain remote regions.
Source

Although the percentage of Canadian seniors with a family physician is high, 5% (approximately 220,000 seniors in 2010) remain without one. In 2009, 61% of seniors without a family physician accessed care through a clinic and 17% went to the emergency department. The majority of others visited a community health centre or used telehealth. Of seniors without a family physician, 39% reported that it was because their regular doctor had moved or retired. Almost one-fifth (18%) stated that they could not find a family physician in their area who was taking new patients. Almost one-third (30%) said that they had not tried to find one.
Access to Geriatricians

Geriatricians specialize in the conditions, treatments and prevention strategies specific to seniors. In 2000, there were 144 geriatricians in all of Canada. In 2003, The National Advisory Council on Aging raised concerns about the relatively low numbers of these specialists. By 2009, the number of geriatricians had risen to 228, but it remains below the more than 500 geriatricians that some experts believe are needed to meet the needs of all of Canada’s seniors.

There is wide variability in rates of geriatricians across jurisdictions. In 2009, Nova Scotia had the highest at 6.8 per 100,000 seniors age 65 and older. There are currently no geriatricians practising in the territories.

Several methods of fostering interest in geriatrics at Canadian medical schools have been developed, including requiring medical students to interact with seniors more often during their training. Such efforts may be working, as the number of medical doctors entering geriatrics training increased by 27% between 2005 and 2010.

Having a regular family physician may help to ensure that seniors’ primary health care needs are met. But having a family physician does not necessarily ensure timely access to that primary care. Less than half of surveyed Canadians reported same- or next-day access to a doctor or nurse when they needed care. One-third reported waiting six days or longer for an appointment—the longest time reported among the 7 developed countries included in the study.
A Team-Based Approach to Accessing Primary Health Care

In 2004, as part of the 10-Year Plan to Strengthen Health Care, the first ministers committed to ensuring that 50% of Canadians have 24/7 access to multidisciplinary teams for primary health care by 2011. Recognizing the need to prevent and manage chronic conditions, especially with an aging population, governments emphasized the development of multidisciplinary teams and the importance of health promotion, disease and injury prevention and chronic disease management.

In 2005, family health teams were implemented in Ontario and serve as one example of a multidisciplinary, patient-centred model of primary health care delivery. Part of the family health teams' vision is to help patients navigate the health care system by providing continuity of care. As of August 2010, approximately 200 family health teams were providing care to almost 3 million Ontarians.

Family health teams can include family physicians, nurse practitioners, registered nurses, dietitians and social workers. These, as well as other professionals, work collaboratively to provide a spectrum of health care services, especially for those without a regular doctor. While specific services may vary based on community needs and composition of individual teams, all family health teams must provide a core set of services, including:

- Health assessments, diagnosis and treatment;
- Primary mental health care;
- Patient education and preventive care;
- Primary palliative care; and
- Support for hospital, home and long-term care homes.

In addition, all offer 24/7 response, care coordination and referral services.
Other Primary Care Providers

Beyond family physicians, there are many health professionals that regularly provide primary care to Canada’s seniors—dentists, for example. Experts have suggested that the role of dentists in maintaining seniors’ health is at times overlooked. Lack of appropriate oral care can contribute to serious declines in seniors’ health status.\textsuperscript{19} In 2008–2009, nearly half (44%) of all seniors had not visited a dental professional in the previous year, compared with just more than a quarter (27%) of those age 45 to 64. Fourteen percent of seniors who responded to the survey had difficulty chewing hard foods—a difficulty that increased with age, affecting 19% of those age 85 and older.\textsuperscript{20} Such problems can in turn affect nutrition, body weight and the progression of many diseases.\textsuperscript{19} Visits to some other primary health care providers remained relatively low. Seniors visit psychologists, social workers and alternative providers less often than younger adults.\textsuperscript{20}
Integration in Delivering Care

Many experts are calling for Canada's health care system to provide a more integrated approach to care, providing services across the continuum in a coordinated way. One example of a program that takes an integrated approach is the Winnipeg Regional Health Authority’s Geriatric Program Assessment Teams (GPAT).

In Manitoba, six GPATs have been established since 1999, with one assigned to each main emergency department in the Winnipeg Regional Health Authority (WRHA). Comprised of clinicians with geriatric-specific training, the teams do comprehensive in-home assessments with at-risk seniors to gauge their health and well-being. A range of supports, such as home care or help in taking medications, are put in place when needed. The goal is to keep seniors safe, healthy and independent while controlling health care costs through reduced emergency department visits and delayed moves to residential care.

Previously, referrals for home health care or home support services were made through primary care providers, so those without a family doctor often fell through the cracks. GPAT referrals can come from anyone who is concerned about a senior—a doctor, relative, banker or police officer. The teams receive about 2,200 referrals annually. Each assessment takes approximately 90 minutes and is reviewed with a geriatrician. Recommendations are wide-ranging and have included modifying the environment, changing medications and revoking driver’s licences. After review, recommendations are sent to the client’s family physician.

“The system here could not function without GPATs now. It’s filled the niche so appropriately,” says Jo-Ann Lapointe McKenzie, WRHA’s program director of rehabilitation and geriatrics.

An internal audit in March 2008 by the Manitoba Centre for Health Policy revealed that Winnipeg had the lowest overuse of medication in the province, while Accreditation Canada recently deemed the GPAT program a leading practice in the country.

For seniors with complex needs that go beyond GPAT’s ability to meet them, the region created PRIME in 2009. Designed for the frailest seniors committed to remaining at home, PRIME aims to meet the full range of care needs. Each participant has a case manager and weekly health monitoring. Home visits to follow-up on new medications or other health issues ensure that clients are managing well. Participants can also call an after-hours phone line with questions or concerns.

Lapointe McKenzie says that one man in the program used to go to the emergency department 30 to 40 times a month because of anxiety. “Now he never goes to the emergency department, he comes to PRIME. He calls the phone line—or the after-hours nurse calls him first.”
Chronic Disease and Prescription Drug Use in Seniors

Seniors with three or more chronic conditions are significantly more likely than seniors without chronic conditions to have a high number of annual visits to their primary health care provider.¹ Data from the population covered in CIHI’s Primary Health Care Voluntary Reporting System confirms these findings. Not surprisingly, higher numbers of chronic conditions treated in primary care mean higher numbers of prescription drugs needed to manage those conditions.

Treating Chronic Illnesses

Medications have become an increasingly significant component of Canada’s health care system, accounting for the second-largest share of health spending, after hospitals.²¹ In 2009, more than half (52%) of seniors on public drug programs³ had claims for at least a 180-day supply of drugs (defined as “chronic use”) to treat two or more select chronic conditions. A quarter (25%) of seniors in six reporting provinces—representing almost 210,000 seniors—had claims for drugs to treat three or more chronic conditions.

In 2009, the proportion of seniors who were chronic users of prescription drugs to treat select chronic conditions ranged from 7% for respiratory disease to 65% for high blood pressure and heart failure (see Figure 14).

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¹ Data is from Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia and P.E.I.
The rate of chronic prescription drug use for seven selected conditions varied across age groups. The treatment of high blood pressure and heart failure, acid-related gastrointestinal (GI) disorders, depression, respiratory disease and osteoporosis increased with age. In contrast, the treatment of high cholesterol and diabetes decreased with age.

### Figure 14: Rate of Chronic Drug Use Among Seniors on Public Drug Programs, by Selected Disease Category, Selected Provinces,* 2009

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>85+</th>
<th>75-84</th>
<th>65-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Blood Pressure and Heart Disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Cholesterol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osteoporosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note**

* The six provinces submitting data to the National Prescription Drug Utilization Information System Database as of March 2011: Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia and P.E.I.

**Source**

National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information.
In 2009, 5 of the top 10 drug classes used by seniors were for the treatment of high blood pressure or heart failure. Seven of the top 10 drug classes were also among the 10 most commonly prescribed in 2002. While there was little change in the most common drug classes prescribed to seniors between 2002 and 2009, there was significant change in the use of some drug classes.

The most significant increases in use occurred in statins (from 22% to 39%) and proton pump inhibitors (PPIs) (from 14% to 25%). The increased use of statins, which treat high cholesterol, is likely due in part to changes in treatment guidelines as well as to an increased prevalence of cardiac risk factors, including high blood pressure, diabetes and obesity. Changes in treatment guidelines were likely also a factor in the increased use of PPIs, used to treat gastro-esophageal reflux disease and peptic ulcer disease. Coxibs, used to treat inflammation, was the only drug class with a large decrease in use between 2002 and 2009, declining from 19% to 4%. This drop was likely due to the emergence of new safety information about some of the products in this class.

This data shows that within a relatively short time frame, the pattern of drug usage among seniors to treat chronic conditions can change significantly for specific drug classes, even though the overall top drug classes remained relatively stable over time. Monitoring such trends can help inform planning for future needs and decision-making.

**Use of Multiple Medications**

Taking prescription medications to control symptoms is an important part of managing many chronic conditions. Although it may be appropriate for some seniors to be taking several drugs, the use of five or more medications—known as “polypharmacy”—increases the risks of drug interactions and side effects.

The number of seniors taking multiple prescription medications is rising. In 2009, about two-thirds (63%) of seniors on public drug programs in six provinces were claiming 5 or more drugs from different drug classes; nearly one-quarter (23%) had claims for 10 or more. In 2002, by comparison, 59% had claims for 5 or more drug classes and 20% had claims for 10 or more. The number of drug classes used by seniors also increased with age. In 2009, 18% of seniors age 65 to 74 had claims for 10 or more drug classes, as did 26% of those age 75 to 84 and 30% age 85 and older.

---

ii. The number of drugs a senior is taking in one year does not necessarily reflect the number of drugs he or she is taking at one time.
A recent survey of Canadian seniors found that, among those with at least one chronic condition and taking five or more prescription drugs, 13% experienced a side effect—more than twice the rate experienced by those taking only one or two prescriptions.1 Seniors are especially at risk for adverse medication reactions because of the lowered renal and liver function that comes with advanced age.30 This issue is compounded by the fact that seniors are often excluded from clinical trials, and therefore there is often a lack of clinical evidence available on treating seniors with medication.31

In addition to taking prescription drugs, seniors take more over-the-counter medications than any other age group.29 Interactions between over-the-counter and prescription medications can be of particular concern because prescribing physicians are not always aware of all the non-prescription medications and supplements that their patients are taking.29, 32 In a 2008 survey, fewer than half (48%) of seniors who had at least one chronic condition and who were taking regular prescription medications reported having had their medications reviewed by a medical doctor in the previous 12 months.1

**Potentially Inappropriate Medications**

The higher prevalence of chronic conditions does contribute to the number of drugs seniors are taking. However, it is important to evaluate the appropriateness of each of the medications prescribed.33, 34 The Beers list is an internationally recognized list of drugs that have been identified as potentially inappropriate to prescribe to seniors because they “are either ineffective or they pose unnecessarily high risk for older persons and a safer alternative is available.” This list was first developed by Dr. Mark H. Beers and a panel of experts in 1991, and it applied specifically to nursing home patients. It was updated in 1997 to apply to all seniors and was updated again in 2003.35–37

Looking at chronic drug use by seniors on public drug programs, roughly 1 in 10 was taking a drug from the Beers list in 2009. Rates ranged from 11% in Alberta to 16% in New Brunswick. A previous study found that chronic use of a drug from the Beers list decreased between 2001–2002 and 2005–2006 (with rates of use between 13% in Alberta and 19% in New Brunswick in 2005–2006)38 (see Figure 15). The 2009 data suggests that this trend in declining chronic use has continued.

In 2009, only three drugs on the Beers list were used on a chronic basis by more than 1% of seniors on public drug programs. The most commonly used was amitriptyline, an antidepressant, followed by conjugated estrogens, used in hormone replacement therapy, and oxybutinin, used to treat incontinence.
The figure below shows the use of potentially inappropriate prescription medications among seniors on public drug programs in six provinces. New Brunswick had the highest age–sex standardized rate of chronic use (16%), Alberta the lowest (11%). The rate increased only slightly with age.

**Figure 15: Age–Sex Standardized Rate of Chronic Beers Drug Use Among Seniors on Public Drug Programs, Selected Provinces,* 2009**

<table>
<thead>
<tr>
<th>Province</th>
<th>Age–Sex Standardized Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alta.</td>
<td>12%</td>
</tr>
<tr>
<td>Sask.</td>
<td>14%</td>
</tr>
<tr>
<td>Man.</td>
<td>12%</td>
</tr>
<tr>
<td>N.B.</td>
<td>18%</td>
</tr>
<tr>
<td>N.S.</td>
<td>12%</td>
</tr>
<tr>
<td>P.E.I.</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Note**
* The six provinces submitting data to the National Prescription Drug Utilization Information System Database as of March 2011: Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia and P.E.I.

**Source**
National Prescription Drug Utilization Information System Database, Canadian Institute for Health Information.

In 2009, public drug program spending on Beers drugs used on a chronic basis was roughly $15 million, accounting for 1.4% of total program spending on seniors. Reducing usage of all Beers drugs would likely result in fewer adverse events and, in turn, reduce the costs associated with these events. However, it is unclear whether reducing Beers drug use would reduce total drug spending. For example, although it would be appropriate in some cases to stop these drugs without prescribing an alternative, in other cases an alternative therapy would be needed.
Strategies to Promote Safe and Appropriate Drug Use

Health care providers and policy-makers continue to work on promoting the safe and appropriate use of medication for all Canadians, including seniors. Several provinces have implemented medication management strategies to promote activities such as medication reviews.\textsuperscript{39} Although medication reviews have shown some success in reducing inappropriate medication use, they are limited by the information available to the person conducting the review.\textsuperscript{29, 32, 40} It is important for patients, where possible, to inform their prescribing physician(s) and pharmacist(s) of all medications they are taking, including those that are over-the-counter or prescribed by other physicians.

Team-based approaches to delivering primary care may also help. Physicians and pharmacists working together in the same practice will most likely lead to increased communication on prescribing. Many provinces fund academic detailing programs, where the most recent information on particular treatment guidelines is shared with physicians, often through face-to-face visits by experts.\textsuperscript{40} Some provinces/territories have also expanded pharmacists’ roles, allowing them to adjust prescriptions in some cases. For example, pharmacists in some provinces are compensated for refusing to dispense a prescription for reasons such as drug abuse, interactions and therapeutic duplication.\textsuperscript{39}

Integration across various health care providers may also help to coordinate care for Canada’s seniors by improving communication and knowledge transfer about patients in this age group, who often have multiple chronic conditions and need to manage several different medications.

Technology is also facilitating information sharing. Drug information systems have been at least partially implemented in several provinces, and work on their full implementation is ongoing across Canada.\textsuperscript{41} More widespread adoption of electronic medical record systems may facilitate physician decision-making in the future, by ensuring access to complete information on patients’ medical conditions and medications.\textsuperscript{41, 42}
Conclusion

Primary health care is the level at which the majority of Canadians make their first point of contact with the health care system. It encompasses a wide range of health services and can serve as the gateway to more specialized care. This discussion focused on two specific aspects of primary health care that have particular importance to seniors with multiple chronic conditions: family physicians and prescription medications.

For the most part, Canada’s seniors do have regular family physicians. Seniors diagnosed with multiple chronic conditions were more likely to seek care from a family physician than those with fewer diagnosed conditions.

Data on drug claims for seniors underscores survey information showing that, with advanced age, the likelihood of being diagnosed with chronic conditions increases. In 2009, the medications most commonly prescribed to seniors were associated with the treatment of high blood pressure and heart failure. The drug claim data also shows that as seniors age they are prescribed more drugs. In 2009, about two-thirds of seniors on public drug programs were claiming 5 or more drug classes, and nearly one-quarter were claiming 10 or more. Those who take a higher number of drugs are at greater risk of side effects. Although the majority of the drugs used by seniors may be required to treat their conditions, more than 1 in 10 seniors were taking a drug considered “potentially inappropriate” to prescribe to them. However, the use of these drugs has decreased in the past decade.

Several strategies have been implemented to promote the safe and appropriate use of drugs in seniors, including team-based approaches to care, medication reviews and the implementation of drug information systems and electronic medical record systems. These strategies all play a role in more effectively managing chronic conditions and reducing inappropriate medication use.
References


Chapter 3: Primary Health Care and Prescription Drugs—Key Components to Keeping Seniors Healthy


33. L. Clatney et al., *Improving the Quality of Drug Management of Saskatchewan Seniors Living in the Community* (Saskatoon, Sask.: Health Quality Council, 2005).


Informal caregiver support is key to enabling many seniors to remain in their communities safely and independently as they age.
Chapter 4
Caring for Seniors in Community Settings

Given that seniors currently represent 14%\(^1\) of Canada’s population and that this proportion is expected to reach close to 25% over the next 25 years,\(^2\) understanding the health and housing needs of older Canadians will become increasingly important. The next three chapters of this report discuss care received in different settings: when they live in the community, when they live in residential care facilities and when they become acutely ill. This chapter focuses on seniors who live in the community and the variety of formal and informal care they can receive to help them remain there.

Independent Living

Most Seniors Live in Private Households

The majority (87%) of Canadians age 55 years and older want to live at home as long as possible.\(^3\) According to the 2006 Canadian census, the vast majority (93%) of seniors age 65 and older do live at home (see Figure 16). Across provinces, the proportion of seniors living in private households did not vary substantially: from 91% in Quebec to 94% in British Columbia. There was, however, greater variation across Canada in the proportion of seniors living alone in private households, ranging from 13% in Nunavut and 24% in Newfoundland and Labrador to 34% in Saskatchewan and almost 37% in Yukon.\(^4\)

Seniors’ first source of health and social support is typically a spouse or co-resident.\(^5\) Consequently, the proportion of seniors living alone is an important consideration in the planning and delivery of care. The proportion of seniors living alone in a household dwelling consistently increased with age: more than a third (37%) of older seniors (age 75 and older) lived alone, compared with almost half (49%) of those in the eldest age group of seniors (age 85 and older).

Women’s living arrangements in older age are driving this increase. Women age 85 and older were twice as likely as their male counterparts to be living alone (59% versus 29%). This is due in large part to women continuing to live alone after the death of their spouse. Other contributing factors include the longer life expectancy of women (although the gap is now narrowing), the age differential at marriage\(^2,6\) and higher rates of widowhood among senior women than among men—of all ages—although rates of widowhood have declined in Canada.\(^2\)
Though living alone may provide independence, it can affect seniors’ financial status, housing affordability and degree of isolation. It also has an effect on overall well-being. Without available community supports, appropriate housing, an informal caregiver or formal care, living alone may precipitate the likelihood of institutionalization.

More than 90% of seniors age 65 and older were living in a household dwelling in 2006. For the eldest seniors (those age 85 and older), the percentage was lower, at just more than 70%. Women age 65 and older were twice as likely as their male counterparts to be living alone (34% versus 16%). This trend is consistent across jurisdictions (data not shown).

**Figure 16: Variations in Seniors’ Living Arrangements, by Age, Canada, 2006**

Source
Supporting Seniors to Maintain Their Independence

More than forty percent (41%) of Canada’s seniors are in very good or excellent health, based on their perceptions of their general and mental health, functional abilities and independence in activities of daily living (ADLs). At some point, help may be required with personal care or tasks around the home due to physical or mental decline. As age advances, such supports facilitate seniors’ ability to maintain independence and continue successfully living in their own homes.

There is a wide range of care and services available to seniors through primary care, home care (involving a combination of home health and support services provided by trained personnel), informal care (unpaid care usually provided by a spouse or family members) and community support programs. The provision of primary care was discussed in the previous chapter. The information below focuses on the provision of formal home care, informal community care and supportive community housing.

Home Care

At any given time across the country, almost 1 million Canadians are receiving home care. The majority (82%) are age 65 or older.

Home care encompasses a broad range of services that must be coordinated across many different providers. Its definition continues to evolve to meet the changing and individualized needs of home care recipients. Home care typically includes both home health services and home support services.

Home health services include nursing, as well as physical, occupational and respiratory therapy, all delivered by licensed health personnel. Home support services include assistance with activities such as homemaking and personal care (for example, bathing, dressing and eating). Home care may also include provision of adult day programs, meal services, home maintenance and repair, transportation and respite services.

A variety of professionals—such as nurses, physiotherapists and social workers—provide home care (see Figure 17). But the majority of home care providers are home support workers—home health aides, personal support workers, personal care workers and home health attendants.
Coordination and Delivery of Home Care Programs

There is no formal obligation on the part of provincial or territorial governments to provide a minimum basket of home care services, as there is for physician or hospital services covered by the Canada Health Act. As such, home care legislation varies considerably across the country. This variation contributes to differences in access to and availability of home care services for Canadians.

Given that home care and long-term care are not covered by the Canada Health Act, several policy-relevant research questions regarding access were identified and articulated in the 2010 Canadian Health Services Research Foundation roundtable discussions. For example,

- What sources of financing are available for home care and long-term care that could be implemented in Canada to increase funding for and improve access to these services?
- What implications would the financing models have for stakeholders, including payers (public and private), providers and consumers?
- Are there other ways to improve access to home care and long-term care, including financial incentives for unpaid caregivers or improving transitions across sectors of care?

Variation in the organization and delivery of home care is not unique to Canada. In some European countries—such as France, Spain and the United Kingdom—the health component of home care is part of the health care system while the social component falls under the social system. In other countries—such as Denmark, Finland and Sweden—both the health and social components of home care are coordinated and delivered solely through the municipalities.

Regardless of which part of the government is responsible for home care delivery, in 2008, the World Health Organization (WHO) identified several factors for providing effective home care services:

- Availability of reliable information on home care usage and expenditure;
- Transparency in what is publicly funded and what the user pays;
- Sustainability of current funding arrangements; and
- Improvement of service efficiency by increasing the integration of services and/or changing the skills mix of home care providers.

Data from CIHI's Home Care Reporting System shows that approximately 68% of assessed home care clients received home health services in 2009–2010. Approximately 38% received home support services. Overall, female seniors were more likely than male seniors to receive formal home care.

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i. Using the most recent Resident Assessment Instrument–Home Care (RAI-HC) assessment in 2009–2010 for home care clients age 65 and older.
Where To Find It

Chapter 5: Caring for Seniors in Residential Care provides detailed comparative information on functional and cognitive health status among home care clients and residents in long-term care. It also reports on quality indicators for both populations, including measures of signs and symptoms of depression, pain control, pressure ulcers and falls.

The type of home care services received by seniors living in the community varies with age. As age increases, seniors are more likely to receive services such as homemaking and meal support. Younger clients are more likely to receive care during home visits from nurses and social workers. In some provinces and territories, these services are paid for publicly; in others, these may need to be paid out-of-pocket or by private insurance plans.†

| Figure 17: Variation in Services Received by Long-Term Home Care Clients, by Age Group, 2009–2010 |
|---|---|---|---|---|
| **Type of Home Care Service** | **Age Group** | **20–64 (%)** | **65–74 (%)** | **75–84 (%)** | **85+ (%)** |
| Home Health Aides | | 42 | 47 | 53 | 59 |
| Visiting Nurses | | 40 | 31 | 21 | 19 |
| Homemaking Services | | 23 | 27 | 33 | 42 |
| Meals* | | 5 | 5 | 9 | 15 |
| Volunteer Services | | 1 | 1 | 1 | 1 |
| Physical Therapy | | 8 | 8 | 7 | 7 |
| Occupational Therapy | | 9 | 8 | 7 | 5 |
| Speech Therapy | | 1 | 1 | 0† | 0† |
| Day Care or Day Hospital | | 3 | 3 | 3 | 2 |
| Social Worker in Home | | 4 | 1 | 1 | 0† |

**Notes**

* Prepared meals delivered by a (paid) formal caregiving agency to the client’s home.
† Indicates data rounded to zero.

Data for this analysis is based on assessments using the Resident Assessment Instrument–Home Care (RAI-HC)© of 151,101 long-term home care clients (those expected to be on service for more than 60 days) age 65 and older receiving publicly funded home care services in Ontario, Nova Scotia and Yukon in 2009–2010. Formal home care and home support service utilization are based on formal care received within the last seven days of when the assessment was performed or since the last assessment if less than seven days.

**Source**

Home Care Reporting System, 2009–2010, Canadian Institute for Health Information.
With the number and proportion of seniors in the Canadian population set to increase, researchers have suggested that the need for home care services will increase in turn.\textsuperscript{17} Contributing factors include

- Increases in the number of seniors having some form of disability;\textsuperscript{18}
- Changes in the characteristics of the senior population, such as educational levels, marital status and living arrangements (potentially affecting the likelihood of receiving family support);\textsuperscript{2} and
- Increases in chronic disease prevalence.\textsuperscript{17}

**Informal Care in the Community**

Informal caregiver support is key to enabling many seniors to remain in their communities safely and independently as they age.\textsuperscript{19} Most informal care (about 80\%) comes from unpaid family, friends and neighbours.\textsuperscript{20} These caregivers provide vital help with ADLs, such as personal hygiene, toileting, eating and moving about inside the home.\textsuperscript{19, 21} In addition to emotional support, informal caregivers also provide help with instrumental ADLs, including meal preparation, housework, medication management, shopping and transportation.\textsuperscript{2}

There are more than 2 million informal caregivers age 45 and older in Canada.\textsuperscript{22} Approximately 97\% of all home care recipients have an informal caregiver, nearly one-third of whom are spouses; almost half are children or children-in-law.\textsuperscript{11}

The responsibilities of informal caregivers often extend around the clock. This can be extremely stressful for the caregiver. Nearly 17\% of all informal caregivers helping seniors reported distress in their role—representing more than 24,000 distressed caregivers in Ontario and Yukon alone.\textsuperscript{11} Further, the rate of caregiver distress increased with the total hours of care provided (see Figure 18). In addition to the number of hours of informal care provided, other factors affect caregiver distress, such as caring for seniors with moderate or severe cognitive impairment and symptoms of depression, caring for those who have difficulty with instrumental ADLs and caring for seniors with difficult-to-manage behaviours, such as resisting care or verbal or physical abuse.\textsuperscript{19}
Informal caregivers’ distress levels rise with the number of hours of care provided. Almost one-third (32%) of caregivers providing more than 21 hours expressed distress, four times more than the percentage of distressed caregivers who provided less than 10 hours of informal care per week.

Figure 18: Caregiver Distress, by Number of Hours of Informal Care per Week, 2009–2010

Note
Includes data from Ontario, Nova Scotia and Yukon.
Source
Home Care Reporting System, 2009–2010, Canadian Institute for Health Information.

The distress experienced by informal caregivers extended into their paid working hours. More than half of women (55%) and almost half of men (45%) providing informal care reported repercussions at their place of employment. For example, caregivers reported that they had to change their work patterns or work hours, or decline promotions or job transfers to accommodate their informal caregiving responsibilities.

The differences observed between men and women in the rates of employment repercussions might be attributed to differences in the type of care provided. They may also reflect traditional gender role differences. For example, women are traditionally more likely than men to provide personal care to family members. And research suggests that providing personal care is a strong predictor of making workplace adjustments. In addition, caregivers with dual responsibilities—caring for children and parents at the same time—are also at increased risk of resigning from employment due to challenges in balancing the demands of work and family.
Financial Support for Informal Caregivers

A strong predictor of institutionalization is a lack of social support.\textsuperscript{27} The health care system’s sustainability may rely in part on informal support networks to delay institutionalization for as long as possible.\textsuperscript{19} From a health policy perspective, it has been recommended that adequate support be available not only for care receivers but also for caregivers.\textsuperscript{6, 28}

Respite care forms the basis for one of several policies supporting caregiver well-being.\textsuperscript{29} Respite care may vary by duration (short- versus long-term) or location (in-home versus institutional). While there is likely not one best approach to the structure and delivery of respite care, it should offer a range of services responsive to both caregiver and care recipient characteristics and needs.

Several policies have been developed to support caregivers within the Canadian health care system:

- Tax credits, such as the Medical Expenses Tax Credit and the Caregiver Tax Credit, reduce a caregiver’s tax burden.\textsuperscript{20}
- The Employment Insurance Compassionate Care Leave Benefit allows family members of palliative patients to take time off to care for them.\textsuperscript{20}
- There are also several provincial and territorial policies and programs in place. For example, the Caregiver Benefit Program in Nova Scotia uses the resident assessment instrument (MDS-HC) as part of its assessment process to inform allocation of $400 monthly to informal caregivers of qualified recipients.\textsuperscript{30}

Social services are important in facilitating seniors’ continued community living.\textsuperscript{31} They can also help support informal caregivers who may be called upon to provide similar care. Examples include seniors’ centres, outreach services, respite care, adult day programs, internet-based support groups, Meals on Wheels, home and yard maintenance, and escorted transportation to essential appointments. Experts have suggested that the “small things”—low-level services—truly matter in large health systems.\textsuperscript{32} Help with housework, gardening, laundry and home maintenance and repairs can all enhance the quality of life for seniors and help them maintain their independence.\textsuperscript{31} Across Canada, eligibility requirements, processes for arranging care and funding for such services vary substantially.\textsuperscript{33}
Supportive Housing

Described as neither fully independent living nor residential care, supportive housing—or assisted living—combines permanent housing with access to supportive services. Supportive housing may offer an intermediate level of care tailored to the needs of many of Canada’s seniors. Ideally, it integrates accommodations with access to a comprehensive and coordinated package of services (homemaking and personal care) and community programs necessary to support health and well-being. Definitions of supportive housing vary broadly across Canada, with no agreed-upon national standard. Supportive housing is a relatively recent designated care setting for providing an appropriate level of care to seniors, one that facilitates continued living in their communities.

Supportive living arrangements are varied, ranging from apartments and congregate housing to multi-level facilities. They may be owned and operated by municipal governments or non-profit groups, as well as the private sector. Some units are government-subsidized, making them generally more affordable than residential care options.

Few studies have assessed the costs, benefits and outcomes of supportive housing models in Canada. However, potential benefits to overall well-being and quality of life in such settings may be gained via:

- Daily provision of nutritious meals;
- Opportunities for socialization;
- Participation in physical activities; and
- Access to health services in the community.

Supportive housing may also reduce emergency department visits, hospitalizations and admission to long-term care.
The Role of Technology in Keeping Seniors in Their Homes

Adoption of new technologies may facilitate community living in the future. Some jurisdictions across Canada have begun to assess the use of telehealth or tele-homecare to provide seniors with access to immediate health care information from their home. For example, a tele-homecare project in New Brunswick called EMPcare@home has been piloted and evaluated among clients with congestive heart failure and chronic obstructive pulmonary disease. It shows potential in reducing hospital admissions and emergency room visits, as well as better self-management of chronic disease.

This technology may expand beyond the telephone to involve videoconferences and other telecommunication technologies. For example, Norway is investigating the potential role of robots in providing care for seniors living at home. The robots may one day be able to perform daily chores or provide medical surveillance. These technologies are in the early stages of development, and it may be some time before they become widely available.
Conclusion

Most seniors want to age at home and maintain their independence for as long as possible. Many remain healthy enough to do so well beyond age 65, even into their 80s and 90s; others require increasing levels of formal and/or informal support to remain in their communities. At any given moment, it is estimated that close to 1 million Canadians receive home care. The majority (82%) of home care clients are seniors, and almost all of them (97%) also have an informal caregiver.

Home care encompasses a broad range of services that must be coordinated across many different providers. Several health human resource challenges are recognized in the home care sector, including home care worker shortages, recruitment and retention challenges, as well as concerns about training and safety, and labour conditions, especially among home support workers.

Along the continuum from independent living to institutionalization, supportive community housing may offer an intermediate level of care that is appropriate to the needs of many of Canada’s seniors. As the system adapts to meet the projected increased needs of seniors in the future, policy-makers should continue to find new ways of supporting informal caregivers and integrating care received through both social and health services. Given the critical role of caregivers in the lives of seniors in the community, interventions to reduce caregiver distress can potentially reduce premature admission of seniors to a residential care facility. Integration of social and health services may reduce fragmentation and improve the continuity and coordination of care provided to seniors as well as to the informal care provider. Such initiatives have been successfully implemented in Quebec.

As described in this chapter, housing and care needs play an increasingly important role in seniors’ lives as they age. With advanced age, seniors are more likely to live alone and to require both formal and informal support to continue doing so. Despite the variety of care options available to facilitate continued community living, some seniors will eventually transition to an institution—either by choice or out of necessity.
References


19. Canadian Institute for Health Information, Quick Stats: Supporting Informal Caregivers—The Heart of Home Care (Ottawa, Ont.: CIHI, 2010).


Chapter 4: Caring for Seniors in Community Settings


35. J. Lum et al., *Balancing Care for Supportive Housing: Final Report* (Toronto, Ont.: University of Toronto, 2010).


41. A. Deshpande et al., *Real-Time (Synchronus) Telehealth in Primary Care: Systematic Review of Systematic Reviews* [Technology Report no. 100] (Ottawa, Ont.: Canadian Agency for Drugs and Technologies in Health, 2008).


Comparisons of long-term home care clients and seniors living in residential care facilities showed that the latter tend to have higher care and support needs.
Chapter 5

Caring for Seniors in Residential Care

As discussed in Chapter 4, a variety of formal and informal care supports is available to help seniors maintain their independence. Sometimes these measures are enough to enable people to stay in their homes; sometimes they are not. Several factors may precipitate a move to residential care, including

• Cognitive decline or decline in physical health status;¹
• Challenges with basic or instrumental activities of daily living;²
• Lack of informal support;¹ ³ and
• Increasing caregiver burden and distress.⁴

This chapter provides information on the segment of Canada’s seniors who live in residential care settings, known alternatively as nursing homes, long-term care facilities and personal care homes. It looks at rates of institutionalization, as well as the demographic and clinical characteristics of residents. Select quality indicators for residential and home care settings are presented and compared. The comparison highlights four areas where future quality improvement and prevention efforts could be focused: depression, pain, pressure ulcers and falls.
Living in Residential Care

In 2008–2009, Statistics Canada estimated that there were 4,845 residential care facilities in Canada, comprising nearly 270,000 beds. Almost half (46%) of these facilities were homes for the aged, delivering services specifically to seniors. Among residents in all facilities (excluding those in Quebec), 42% of those in homes for the aged were older than age 85, of which 78% were female. Across jurisdictions, there was variation in the services and number of beds in homes for the aged per senior population. On average in Canada in 2008–2009, there were 46 beds staffed and in operation per 1,000 seniors age 65 and older, ranging from 35 in Quebec to 89 in Prince Edward Island.

In recent decades, rates of institutionalization among seniors have declined. In 2006, only 1.4% of those between age 65 and 74 and 12% of those 75 and older lived in a special care facility as defined by the census. In 1981, rates were 3% and 17%, respectively. The decline may be partly explained by increased access to home care and community supports, improvements in overall health and decreasing rates of admission among clients with less complex health needs. Although the number of long-term care beds per 1,000 seniors has remained stable since 2004, the level of care has increased, with residents receiving more intensive care than in the past.

The decline in institutionalization rates may also be due in part to targeted changes in health technology. Some types of care traditionally provided in residential care are now provided through home care, due to technological advances. Researchers have suggested that this trend toward de-institutionalization is less about the stated preferences of seniors and more about the organization of care, asserting that institutional settings have higher costs associated with them than do services provided through home care.

Data from CIHI’s Continuing Care Reporting System shows that the profile of seniors in residential care varies across the country. Figure 19 compares residents from seven jurisdictions on measures of functional and cognitive status in 2009–2010.

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i. Includes all types of care, ranging from room and board with custodial care, with a maximum of 30 minutes of care per day, to 24-hour monitoring outside of an acute care setting.
ii. Quebec data has no age and sex breakdown.
iii. The 2006 Canadian census defines special care facility as “nursing homes, residences for senior citizens, chronic and long-term care and related facilities.”
Integration of Health and Social Services in Quebec

In Quebec, health and social services are integrated into a single administration, based on legislation enacted in the early 1970s. Reforms then took place between 2003 and 2004, resulting in the creation of 95 local health and social service networks across the province. These reforms effectively reorganized Quebec's health and social services to better meet the needs of its population, as well as managing primary and secondary health and social services.

At the local level, a range of services are brought together, including care providers such as family physicians, as well as other social service partners, including community pharmacies and community organizations. Each local network has a health and social services centre (CSSS). Although some variation exists, these centres typically combine local community services centres (CLSCs), residential and long-term care centres (CHSLDs) and, in most cases, a hospital centre (CH). Additional services include rehabilitation centres (CRs) and child and youth protection centres (CPEJs). The CSSS forms the basis of an integrated provision of services, helping to ensure accessibility, case management, follow-up and coordination of services for the population it serves.
The profile of seniors in residential care is fairly consistent across the country. The majority of residents have cognitive impairment and require extensive assistance, thus requiring substantial amounts of care.

### Figure 19: Jurisdictional Comparisons for Assessed Seniors Living in Residential Care, 2009–2010

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Descriptive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.C. (%)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>Percentage of the assessed senior population age 85+</td>
</tr>
<tr>
<td></td>
<td>58</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
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</tr>
<tr>
<td></td>
<td>78</td>
</tr>
<tr>
<td><strong>Functional Status</strong> (Activities of Daily Living Hierarchy)</td>
<td>Extensive assistance or dependence</td>
</tr>
<tr>
<td></td>
<td>73</td>
</tr>
<tr>
<td><strong>Cognitive Performance Scale (CPS)</strong></td>
<td>Moderate to severe impairment</td>
</tr>
<tr>
<td></td>
<td>64</td>
</tr>
</tbody>
</table>

**Notes**
Sample sizes are small for Newfoundland and Labrador and Yukon, potentially contributing to some of the variation observed.

Data included is based on a sample of residential care facilities in Newfoundland and Labrador, Nova Scotia, Ontario, Manitoba, Saskatchewan, British Columbia and Yukon.

**Source**
Continuing Care Reporting System, 2009–2010, Canadian Institute for Health Information.
Analysis of data in CIHI’s Home and Continuing Care Reporting Systems can help to gain a better understanding of the range of care needs across the sectors. In a comparison of home care clients and seniors who are living in residential care, on various measures, it was found that seniors in residential care were more likely to require extensive assistance with activities of daily living (ADLs), such as bathing and toileting (74% versus 18%). They were also more likely to have moderate to severe cognitive impairment (60% versus 14%) (see Figure 20).

Many of these factors, when coupled with a lack of home care and informal support, are associated with admission to a residential care facility. Disease-specific factors, dementia and cerebrovascular disease, also play a role in institutionalization among the elderly.

The characteristics of assessed seniors in residential care facilities compared with those of seniors living in the community and receiving home care reveal a number of differences. Seniors in residential care are more likely to be older (age 85+), unmarried and more functionally dependent.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Descriptive</th>
<th>Home Care HCRS* (%)</th>
<th>Residential Care CCRS† (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Percentage of the assessed senior population age 85+</td>
<td>40</td>
<td>57</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Not married</td>
<td>64</td>
<td>76</td>
</tr>
<tr>
<td>Functional Status (Activities of Daily Living Hierarchy)</td>
<td>Extensive assistance/dependence</td>
<td>18</td>
<td>74</td>
</tr>
<tr>
<td>Cognitive Performance Scale (CPS)</td>
<td>Moderate to severe impairment</td>
<td>14</td>
<td>60</td>
</tr>
</tbody>
</table>

Notes
* Includes Ontario, Nova Scotia and Yukon.
† Includes a sample of residential care facilities in Newfoundland and Labrador, Nova Scotia, Ontario, Manitoba, Saskatchewan, British Columbia and Yukon.

Sources
Home Care Reporting System and Continuing Care Reporting System, 2009–2010, Canadian Institute for Health Information.
Prioritizing Wait Times for Long-Term Care

There are several tools available to assess patients’ care needs. One such tool, the Method for Assigning Priority Levels, or MAPle, is used in allocating community and facility-based services by prioritizing clients’ needs. MAPle scores identify clients at risk for institutionalization and caregiver burnout, as well as assess need in patients waiting for long-term care placement.

Recent data from Ontario has shown that seniors living in the community with higher assessed need (as measured by their MAPle scores) are placed in nursing homes faster than those with less assessed need. From 2004 to 2008, almost 50% of seniors with high or very high need were placed within a year of being on a wait list. In comparison, less than 40% of seniors with lower need were placed in this time frame.

For hospital inpatients, however, assessed need does not appear to influence wait time for long-term care placement. More than 60% of hospitalized seniors on long-term care wait lists were placed within one year, regardless of assessed level of need. Researchers have suggested that the first-come-first-served approach may place older adults at greater risk of unnecessary institutionalization. They recommend that seniors' assessed need be considered in decisions about the most appropriate location of care for seniors.

Quality Indicators for Seniors in Home and Residential Care

Receiving appropriate home care services in combination with informal support can help ensure continued, relatively independent, community living. However, clients may experience further health decline or a breakdown in their support system. This, in turn, may result in an increased dependency on formal or informal care, or even institutionalization.

The following section highlights four selected quality indicators for home and residential care settings, specifically signs and symptoms of depression, pain, pressure ulcers and falls. They provide information on the relative health needs of seniors in both settings and highlight variability between these locations of care. These standardized measures are amenable to preventive efforts and affect a large number of Canadian seniors receiving long-term care.
They speak to keeping people healthy, suggesting that appropriate home or residential care services can play a role in slowing decline and maintaining or even improving health. In the context of other evidence, they can flag potential quality problems and give care providers and facility administrators an opportunity to target quality improvement actions and best care practices.\textsuperscript{20, 21}

The findings in this section are based on assessments of both long-stay clients receiving publicly funded home care services and seniors in residential care, all for the period 2009–2010.

**Where to Find It**

Chapter 4: Caring for Seniors in Community Settings provides detailed information on the proportion of seniors living at home in the community, as well as information on the types of care and support (formal and informal) received to help them remain there.

**Signs and Symptoms of Depression**

Mood disorders are the most common mental illness among seniors in Canada. In 2009–2010, 5% of seniors in the community had a mood disorder such as depression, bipolar disorder, mania or dysthymia, compared with 8% of those age 45 to 64.\textsuperscript{22} Mental illnesses tend to be under-diagnosed among seniors because symptoms are often dismissed as a natural part of aging or as a response to a physical illness.\textsuperscript{23}

Mood disorders, such as depression, are more common among seniors living in institutions.\textsuperscript{24} Assessment of seniors in residential care facilities and in long-term home care settings in 2009–2010 revealed that 31% of those in residential care facilities showed signs of possible depression, more than double the percentage of those in long-term home care (14%). Further, 23% of seniors living in residential care facilities who had been identified as having depression or anxiety had symptoms worsen over a three-month period.

Although some events associated with worsening of condition are unavoidable, there are strategies that may help. For long-term care residents, providing meaningful activities, social networks, visitors, medications or pet therapy have proven useful.\textsuperscript{25} For seniors in the community, encouraging them to have and engage with social networks, join in social activities and participate in chronic disease management may help.\textsuperscript{25}
Daily Pain and Pain Management

Like depression, chronic pain is common among seniors. It is often unrecognized and, as a result, under-treated. Results of an assessment of seniors in the two care settings in 2009–2010 found that 16% of seniors living in residential care facilities reported daily pain, in contrast to 34% of long-term home care clients. Several factors may account for this difference. For example, there may be better pain control in residential facilities, given the 24-hour availability of nursing staff and the structured environment for medication management. Home care clients are also less likely to suffer from dementia and are therefore better able to report their pain.

Among seniors in residential care, 11% reported worsened pain in the past three months. Although the measures used for quality of pain control in both settings are not exactly the same, standardized indicators of quality of pain control are available for home care clients. The prevalence of disruptive or intense daily pain was 34% among long-term home care clients; the prevalence of inadequate pain control among clients with pain was 22%.

Strategies to help control pain can be put in place in both home and residential care settings. To facilitate this, standardized assessment instruments can be used by clinicians to flag home care clients and residents whose pain should be further investigated.26 Among residential care clients, research has shown that the use of appropriate painkillers, physiotherapy, massage therapy and certain types of exercise can help.27

It is important for home care providers to recognize pain in their clients, especially among individuals with dementia or those who have communication difficulties. Environmental factors in clients’ homes that may contribute to their pain can be monitored and corrected, and visits to family physicians for targeted care of underlying conditions can be encouraged.27

Pressure Ulcers

Sometimes called bed sores, pressure ulcers are open sores on the skin. Because they are preventable, pressure ulcers are considered an indicator of the quality of care received. Among seniors living in residential care, 5% had an advanced pressure ulcer (stage two to four). Over a three-month assessment period, the condition of 3% of these residents worsened.
Pressure ulcers are more common among frail individuals or those with a disability that makes it difficult for them to move around easily. These ulcers can be prevented by assessing resident risk, providing special mattresses and/or padding, periodically turning those who cannot move independently, avoiding incontinence, keeping skin dry and providing good nutrition. Special wound dressings and treatments can be used to help pressure ulcers heal faster. In cases where the pressure ulcer does not show signs of healing, the person should be evaluated for complicating factors, such as nutritional deficits, terminal illness, elevated bacterial levels or the presence of other comorbidities. Clinical assessment protocols for pressure ulcers, similar to those described for the pain quality indicator, are available. These are designed to work with a variety of assessment instruments, and the results can inform overall plans of care to help address the problems associated with pressure ulcers.

**Falls**

Falls are the leading cause of injury hospitalizations for seniors across the country, contributing to 9% of all emergency department visits by seniors. Falls can lead to serious injuries, reduced mobility, nursing home admission and death. The prevalence of falls is an important quality indicator for home and residential care clients, as well as individuals in other settings (see Figure 21). Often, falls among home care clients are caused by safety hazards in their homes. Underlying issues that can lead to a fall in either setting include muscle weakness, vision problems and side effects from medications. In some cases, cognitive impairment, including dementia and delirium, can increase the risk of a fall.

A number of clinical practice guidelines on fall reduction exist in Canada and internationally. Most can be adopted in both home and residential care settings. Also available across Canada are a number of fall prevention initiatives aimed specifically at seniors. Some offer educational sessions on fall prevention. Others are more interactive, focusing on building strength and improving balance. It has been suggested that the most effective fall prevention strategies are collaborative, aim to change more than one risk factor and are specific to individual risk profiles.
The figure below provides comparative information on falls among seniors age 65 and older. The 2009–2010 data spans different care settings. Taken together, it provides a picture of the prevalence of falls among the seniors population across care settings. In complex continuing care, 7% of seniors fell within 30 days of assessment, whereas in home care, 28% fell within 90 days of assessment. Differences among sectors may be partly explained by the profile of individuals in each setting and by characteristics specific to each. This data is not directly comparable across all settings because it is based on different methodologies and different settings.

<table>
<thead>
<tr>
<th>Care Sector</th>
<th>Percentage of Seniors (Age 65+) Experiencing a Fall</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to Admission/Visit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Care</td>
<td>8%</td>
<td>Prior to admission</td>
</tr>
<tr>
<td>Emergency Department</td>
<td>9%</td>
<td>Prior to visit</td>
</tr>
<tr>
<td>Mental Health (Inpatient)</td>
<td>12%</td>
<td>30 days prior to admission assessment</td>
</tr>
<tr>
<td>Within Care Setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Care</td>
<td>12%</td>
<td>Within 30 days of assessment</td>
</tr>
<tr>
<td>Complex Continuing Care</td>
<td>7%</td>
<td>Within 30 days of assessment</td>
</tr>
<tr>
<td>Home Care</td>
<td>28%</td>
<td>Within 90 days of assessment</td>
</tr>
</tbody>
</table>

Note
Data across sectors is not necessarily mutually exclusive. For example, a senior admitted to inpatient acute care who had fallen while receiving home care services would be counted in both sectors.

Sources
National Trauma Registry, National Ambulatory Care Reporting System, Ontario Mental Health Reporting System, Continuing Care Reporting System and Home Care Reporting System, 2009–2010, Canadian Institute for Health Information. Please visit www.cihi.ca for the methodology specific to each database.
Conclusion

Most seniors in Canada reside in their own homes and in their own communities. As their needs increase for assistance with daily activities and personal care, some will eventually require institutionalization. Chapters 3, 4 and 5 have shown that care for seniors comes from a variety of providers in a variety of settings. Comparisons of long-term home care clients and seniors living in residential care facilities showed that the latter tend to have higher care and support needs. Although seniors typically prefer to stay in their own homes for as long as possible, residential care facilities can provide them with many benefits, including around-the-clock care and a socially supportive environment.

Quality indicators such as signs and symptoms of depression were derived from standardized assessment instruments developed by interRAI, a collaborative network of international researchers. The assessment instruments share a common language, which permits the same clinical concepts to be referenced across instruments and care settings, forming an integrated health information system. Reporting such measures serves not only to illustrate variation, but also to identify opportunities for improvements in care.

All of the indicators examined in this chapter are amenable to preventive measures. Measuring and reporting on them facilitates awareness, which is the first step to managing the associated issues. The analyses reveal that the quality of care received by seniors can be improved in some areas, in both home and residential care settings. Researchers have identified some barriers to change; where possible, strategies to ameliorate these should be investigated.
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Chapter 5: Caring for Seniors in Residential Care


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In 2009–2010, one-quarter (about 25%) of seniors were admitted to inpatient care via the emergency department, compared with only 8% of non-seniors.
As with Canadians of all ages, seniors may become ill enough to require a hospital visit. They may seek care at emergency departments or be admitted as inpatients. This chapter describes how the system is meeting the needs of seniors when they become acutely ill. It looks at the appropriateness of care they receive in emergency departments and acute care hospitals. In particular, it examines patient flow, through discussions of waiting to be seen in emergency departments, hospitalizations for ambulatory care sensitive conditions and alternate level of care stays. Care at the end of life is also discussed. These are all interactions that seniors commonly have within the hospital sector. As the proportion of seniors in Canada’s population grows, issues affecting older Canadians will have bigger impacts on the system. As such, it will become increasingly important to carefully manage these issues in order to minimize their impact on the hospital system.

Where to Find It

Chapter 2: The Sustainability of Canada’s Health Care System provides detailed comparative information on seniors’ use of hospital care. It reports on hospital discharges and length of stay for inpatient acute care, mental health care, complex continuing care and rehabilitation services, as well as outpatient and emergency care.
Wait Times in Emergency Departments

Almost half of the unmet care needs reported by Canadian seniors in a 2005 survey were related to long wait times. Waiting to be seen in the emergency department remains a challenge, driven in part by the flow of patients through the entire hospital system. Several provincial and territorial governments have raised the issue of access to emergency care, often underscored by media reports. Limited resources can result in emergency department closures, which in turn can impact how far patients need to travel or how long they need to wait to receive care.

Seniors have significantly higher rates of emergency department use compared with their younger counterparts: 44,043 per 100,000 population age 65 and older versus 29,485 per 100,000 population age 20 to 64. Using data from CIHI’s National Ambulatory Care Reporting System, comparative indicators of emergency department wait times can be reported for several Canadian provinces and territories. There are different ways to measure how long people stay in emergency rooms, depending on where the clock starts and stops—Emergency Department Length of Stay and Time Waiting for an Inpatient Bed, for example. Results from these two measures show some consistent differences in wait times for seniors compared with younger adults.

The total time that seniors spend in the emergency department before either being admitted to the hospital or discharged home was calculated for 2009–2010. Data shows that the median length of stay in emergency departments was 4 hours for seniors, compared with only 2.5 hours for adults age 20 to 64. The length of stay increased with age: 3.3 hours for those age 65 to 74; 4.2 hours for those age 75 to 84; and 5.3 hours for those age 85 and older. Factors such as severity of presenting condition, subsequent destination (home versus admission to hospital, for example), time needed for patient monitoring, diagnostic or laboratory test results and consultation with specialists can all affect the length of time spent in the emergency department.

Because they are more likely than younger adults to have multiple chronic conditions, seniors have more complex care needs, which may also contribute to the longer waits for older seniors. For example, medical staff need to evaluate the impact of existing multi-morbidities and current prescription drug utilization in light of presenting conditions at the emergency department. Gathering such information takes time. Emergency department staff must also coordinate care with informal caregivers and often must ensure that formal home support programs are in place before patients can be safely discharged home.

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i. Data includes full coverage of Ontario and parts of Nova Scotia, P.E.I., Manitoba, B.C. and Yukon.
Once in the emergency department, seniors are also more likely than younger adults to be admitted as inpatients. In 2009–2010, one-quarter (about 25%) of seniors were admitted to inpatient care via the emergency department, compared with only 8% of non-seniors. On average, seniors spend more time waiting to be admitted to inpatient care, compared with non-senior adults (3.7 hours versus 2.7 hours in 2009–2010). This is due in part to the nature of the conditions for which seniors are most often being treated (see Figure 22). For example, cardiac and respiratory conditions represent the majority of hospital visits by seniors. These conditions can lead to serious complications in seniors, adding to the complexity and length of treatment.

**Innovation in Delivering Care**

The traditional approach to providing care has focused primarily on different levels of care delivered separately and in different places. Many experts are recommending that the system adapt to provide a more integrated approach to care, providing services across the continuum in a coordinated way.

The first of its kind in an acute care academic health sciences centre in Canada, the Acute Care for Elders (ACE) Strategy at Mount Sinai Hospital in Toronto encompasses a comprehensive and integrated continuum of care that spans home and community, ambulatory, emergency and inpatient services, while promoting independence and minimizing the risk of functional decline. The program aims to get those who are hospitalized home as soon as possible—or keep them out of the hospital entirely.

“Every day an older person is in hospital, they lose 5% of their function,” says Dr. Samir Sinha, Mount Sinai’s director of geriatrics, noting that an extended stay could mean that the person never lives independently at home again.

In the emergency department, every senior is screened to identify risk factors predicting poor outcomes. If hospitalization cannot be avoided, specialty inpatient geriatric consultation teams and units manage issues to prevent functional decline, with the frailest patients receiving enhanced therapy to meet the goal of returning them home. Discharged patients are followed up on, while the homebound receive ongoing primary care at home through a partnership with a local agency and the support of geriatricians and geriatric psychiatrists.

In the strategy’s first year, Mount Sinai’s average length of stay and readmission rates dropped. It returned home the highest percentage of patients in the region and achieved a patient satisfaction rate of nearly 97%.

“This is the model we need to move forward if we’re going to ensure that our publicly funded system can meet the needs of an aging population,” Sinha says.
In 2009–2010, 4 of the top 10 reasons seniors were hospitalized in acute care were cardiac-related. These accounted for 11% of all seniors’ acute care hospitalizations but only 7% of acute care hospitalizations for non-senior adults. Other top reasons for the hospitalization of seniors included chronic obstructive pulmonary disease, pneumonia and palliative care (see Figure 22).

The figure below shows the top 10 reasons for inpatient hospitalization in acute care among seniors. Several of the top reasons for hospitalization were similar in senior and non-senior populations, including treatment for chronic obstructive pulmonary disease, percutaneous coronary intervention and hip and knee replacements.

<table>
<thead>
<tr>
<th>Top Acute Inpatient Conditions for Seniors</th>
<th>Number of Seniors’ Discharges</th>
<th>Percentage of Seniors’ Discharges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Obstructive Pulmonary Disease</td>
<td>49,914</td>
<td>4.9</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>43,580</td>
<td>4.3</td>
</tr>
<tr>
<td>Knee Replacement</td>
<td>30,784</td>
<td>3.0</td>
</tr>
<tr>
<td>Viral/Unspecified Pneumonia</td>
<td>30,385</td>
<td>3.0</td>
</tr>
<tr>
<td>Myocardial Infarction/Shock/Arrest</td>
<td>27,804</td>
<td>2.7</td>
</tr>
<tr>
<td>Hip Replacement</td>
<td>27,369</td>
<td>2.7</td>
</tr>
<tr>
<td>Arrhythmia</td>
<td>25,599</td>
<td>2.5</td>
</tr>
<tr>
<td>Palliative Care</td>
<td>21,524</td>
<td>2.1</td>
</tr>
<tr>
<td>Percutaneous Coronary Intervention</td>
<td>19,377</td>
<td>1.9</td>
</tr>
<tr>
<td>General Symptom/Sign*</td>
<td>17,533</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Notes
* Includes multiple conditions (such as nervousness, unspecified pain and cachexia).
Excludes obstetrical cases, cadaveric donors, non-Canadian residents and records with a most responsible diagnosis for mental health (ICD-10 diagnosis code with a prefix of F or G30).
Source
Hospital Morbidity Database, 2009–2010, Canadian Institute for Health Information.
Chapter 6: Caring for Seniors With Acute Illness

Wait Time Benchmarks for Priority Interventions

In 2004, Canada's first ministers agreed to reduce wait times in five priority areas: cancer treatment, cardiac care, diagnostic imaging, joint replacement and sight restoration. They also agreed to work toward meeting evidence-based targets—called benchmarks—for medically acceptable waits. Canadian benchmarks were established in 2005 for key procedures such as hip and knee replacements and cataract surgery.

Seniors comprise a significant proportion of the patients waiting for these procedures. In 2009–2010, about 60% of hip and knee replacements and 80% of cataract surgical procedures were carried out on seniors. All three types of procedures were among the top conditions for which seniors received hospital treatment. For example, one-quarter of all day-surgery visits among seniors were for cataract surgery, the highest volume day-surgery procedure for seniors in 2009–2010.

Since the introduction of the 10-Year Plan to Strengthen Health Care, progress has been made in reducing wait times. In 2010–2011, about 8 out of every 10 patients across Canada received their priority procedures within the benchmarks. Specifically, 84% of patients received their hip replacements, 83% received their cataract surgery and 79% received their knee replacements within the benchmark time frames in 2010.
Hospitalizations for Ambulatory Care Sensitive Conditions

As described in Chapter 1, seniors are a diverse group. Many Canadians maintain good health well into their senior years, while others develop one or even several chronic conditions as they age. Many of the complications associated with chronic conditions like chronic obstructive pulmonary disease, congestive heart failure and high blood pressure can be avoided or delayed through appropriate delivery of primary care in the community and in specialty clinics. Because of this, they are considered ambulatory care sensitive conditions (ACSCs). One of the most important and potentially avoidable complications is hospitalization.

Overall, ACSC hospitalization rates have decreased from 351 per 100,000 population in 2006–2007 to 302 per 100,000 population in 2009–2010. A number of factors—including where people live, their sex, the severity of their condition and their income—are associated with variation in ACSC hospitalization rates. Age is also a factor.

An estimated 1 in every 11 seniors who visits an emergency department is there to receive care for an ACSC. Seniors who visited emergency departments seeking treatment for ACSCs were assessed as requiring more urgent care than those seeking treatment for other conditions, and they were more likely to be hospitalized as a result. Although the likelihood of hospitalization for treatment of an ACSC has recently decreased, the numbers remain high: almost half of seniors (47%) who arrived at the emergency department seeking treatment for ACSCs in 2009–2010 were admitted (down from 52% in 2004–2005).

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ii. Figures for 2006–2007 do not include data from Quebec.
Hospitalization rates for selected ambulatory care sensitive conditions (ACSCs) vary by age group. With the exception of epilepsy, rates are highest among those age 85 and older for all ASCSs, most notably for congestive heart failure and chronic obstructive pulmonary disease.

**Figure 23: Rates of Hospitalization for Ambulatory Care Sensitive Conditions, Canada, 2009–2010**

Note
Excludes cases where death occurred before discharge.

Source
Hospital Morbidity Database, 2009–2010, Canadian Institute for Health Information.
Analyses of hospitalization rates for seniors with ACSCs in 2009–2010 show variation by age group. Rates of hospitalization for congestive heart failure were significantly higher as age increased, at 387 per 100,000 population for the youngest group of seniors (those age 65 to 74), compared with 2,240 per 100,000 population for the eldest group of seniors (those age 85 and older). Similar results were found for chronic obstructive pulmonary disease: 758 versus 1,711 per 100,000, respectively. Smaller differences were seen in hospitalizations for angioplasty, asthma, diabetes and hypertension (see Figure 23).

Strategies for reducing ACSC admissions, including early detection, regular monitoring, drug therapy and healthy lifestyle promotion, are all available through primary care providers. Often, such strategies help seniors manage chronic conditions successfully in their communities. However, even with effective chronic disease management, hospitalization is sometimes required.

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**Preventing Influenza**

Influenza is a major cause of hospitalization and mortality among seniors in Canada. In 2009–2010, approximately 2,300 patients age 65 and older were admitted for influenza.\(^{iii}\) Approximately 10% of them died. In 2008–2009, the estimated average cost for a flu hospitalization was about $2,900.\(^{i4}\) For the same dollar amount, the government could pay for approximately 384 flu vaccinations (based on the 2006 Ontario flu shot program).\(^{i6}\)

Influenza can be prevented. Vaccination has been recommended worldwide, particularly for high-risk groups, including seniors and people who live and work with seniors.\(^{i6–i9}\) To ensure access, public health programs across Canada provide publicly funded vaccinations to people age 65 and older, who are at high risk for complications.\(^{i0}\) Vaccination priority is also given to health care and social service workers who work with high-risk groups. Despite significant health promotion efforts, vaccination rates in Canada frequently remain below set targets.\(^{i1}\)

Compared with 28 other OECD countries, Canada ranked 10th for influenza vaccination among seniors, with an estimated 67% of the seniors population having been vaccinated in 2008. When surveyed, community-dwelling Canadian seniors offered several reasons for avoiding immunization, including fear of adverse reactions, belief that influenza vaccination was unnecessary and having experienced a bad reaction previously.\(^{i1}\)

(\(cont’d\) on next page)

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\(^{iii}\) Includes hospitalizations for lab-confirmed and suspect H1N1 virus, as well as for seasonal influenza. Caution must be used when interpreting these statistics, as rates of hospitalization for H1N1/influenza were higher for all age groups between April and December 2009 than for seasonal influenza in a typical year.\(^{i2}\)
Canada ranked 10th among 29 OECD countries for total number of seniors immunized against influenza in 2008, with only two-thirds (67%) of all Canadian seniors having received an influenza vaccination. Chile had the highest rate, at 78%.

Figure 24: Percentage of All Seniors Immunized Against Influenza, 29 Selected OECD Countries, 2008

Notes
* 2006.
† 2007.
Source

Seniors in Alternate Level of Care

The term “alternate level of care” (ALC) describes patients in acute care beds who are waiting to be moved to another care setting, such as residential care or rehabilitation. Some of the time spent in emergency departments is the result of beds not being available for those already assessed and requiring inpatient acute care. This may be driven in part by challenges in discharging acute care inpatients experiencing ALC waits. On any given day, more than 5,200 acute care beds across Canada are occupied by ALC patients. Nearly 85% of ALC patients are age 65 or older; many (35%) are older than 85.
ALC and Dementia

Dementia is a loss of cognitive function resulting from a variety of diseases. It is most prevalent among seniors, affecting approximately 1 in 11 Canadians older than age 65. This is expected to double by 2038, along with the increase in the seniors population.

The presence of dementia is an important factor influencing a patient’s likelihood of discharge from an acute care setting to a long-term care facility. In 2009–2010, almost one-quarter (23%) of all seniors designated as ALC had a diagnosis of dementia. Their median length of stay in hospital was more than twice that of seniors without a diagnosis of dementia (20 versus just 9 days). The increased length of stay was likely due to waiting for an available spot in long-term care. In 2008, the estimated direct cost of dementia cases in long-term and community care was $4.5 billion.

Several jurisdictions are developing strategies to address the expected increase in dementia-related cases. For example, in Quebec, a committee of experts on dementia has produced an action plan with several recommendations and a strategy for their implementation. The recommendations include:

- Providing personalized and coordinated assessment and treatment services;
- Developing training programs for professional staff and policy-makers; and
- Improving access to home support services and appropriate end-of-life-care.

In Saskatchewan, work is being done on addressing the barriers to using formal services for dementia in rural communities. Issues such as the stigma of dementia, lack of awareness and accessibility of services are among the barriers identified and currently being targeted to improve dementia care. Recent research has identified several factors associated with the onset of dementia, including mid-life obesity and diabetes. It is possible that the prevalence of dementia among future seniors may be reduced through targeted prevention strategies in these areas.

While about 15% of all ALC stays last only a few days, one in five (20%) lasts more than a month. Research has shown that prolonged hospitalizations are associated with serious adverse outcomes of particular concern to seniors. These include accelerated functional decline, pressure ulcers and infections.
Almost half of seniors designated as alternate level of care (ALC) were ultimately discharged to long-term care facilities (47%), compared with only one-quarter (26%) of non-senior adults. Compared with younger adults, seniors were less likely to be discharged to rehabilitation services (11% versus 20%) or discharged home without support services (12% versus 23%).

Figure 25: Discharge Destination for Seniors Versus Non-Seniors Designated as Alternate Level of Care, Canada, 2009–2010

Note
Excludes obstetrical cases, stillbirths, cadaveric donors and records with an invalid health care number.

Source
Hospital Morbidity Database, 2009–2010, Canadian Institute for Health Information.
Although the overall rate of institutionalization among seniors has declined in recent decades, seniors designated as ALC are most commonly waiting for placement in long-term care (see Figure 25). On any given day, an estimated 4,400 are waiting for such placements. The number of long-term care beds per 1,000 seniors has remained virtually unchanged since 2004. However, there has been considerable change in the use of those beds. Specifically, there has been a rise in the proportion of residents receiving more intensive care. This, coupled with the substantial rise expected in the number of seniors over the next decade (many of whom will have multiple chronic conditions), may increase the need for long-term care beds in the near future. The creation of policies that allow seniors to transition out of hospital to a more appropriate location of care may help to ensure that patient flow is not compromised as a result of these trends. One such example is British Columbia’s Residential Care Access Policy, which was created to ensure that patients with the highest need are prioritized to receive residential care beds first.

Care at the End of Life

Discussion in the earlier sections of this chapter focused on caring for seniors who become acutely ill. The majority of that care is curative. However, as age advances, the inevitability of the end of life becomes more salient, and the focus of care may therefore shift from treatment to palliation. As Canada’s population ages, taking a patient-centred approach to planning end-of-life care will be increasingly important. The literature suggests that seniors prefer to die in their own homes. Despite this, palliative care was among the top 10 conditions for which seniors were hospitalized in Canada in 2009–2010. Eight out of every 10 adults who died in hospital, and who had been receiving palliative care, were seniors.

Most deaths in Canada occur in one of four settings: at home, in long-term care, in hospice or in an acute care hospital. In the decade between 1996 and 2006, the proportion of Canadians dying in a hospital declined steadily, from 73% to 60%. This downward trend of in-hospital death corresponds with growth in community-based end-of-life care.

An important component in determining the most appropriate care for terminally ill patients is being responsive to their expressed needs. A 2005 survey of inpatients with end-stage disease at five tertiary hospitals in Canada found that it was not the location of care that was most important to them. Rather, having trust and confidence in their care providers—regardless of setting—was their primary concern. This was also a priority to the majority of family caregivers for these patients.
Chapter 6: Caring for Seniors With Acute Illness

The issue of end-of-life care has figured prominently in discussions of health care renewal. Since 1995, it has been the focus of two senate committee reports, as well as related initiatives, such as the appointment of a minister with Special Responsibility for Palliative Care, the establishment of the Secretariat on Palliative and End-of-Life Care, the development of a national strategy on palliative and end-of-life care and a Parliamentary Committee on Palliative and Compassionate Care.\textsuperscript{40–44} Many provinces and territories have programs in place to ensure drug coverage for palliative patients.\textsuperscript{41} In addition, recommendations related to end-of-life care appeared in both the Kirby and Romanow reports of 2002.\textsuperscript{42, 45}

The exact number of seniors whose end-of-life care would most appropriately be provided in acute care hospitals is unknown. But the hospital system is under pressure to accommodate admissions for both curative and end-of-life care. This pressure will likely intensify as Canada’s population ages and the need for end-of-life care grows.

Conclusion

Patient flow and integration of care across the continuum are critical aspects of health system design. Length of stay in emergency departments, hospitalizations for ACSCs and ALC stays all present challenges to patient flow. These may also be compounded by the unique challenges already faced by seniors who visit hospitals for treatment, particularly at the transition points between different care settings. Examining seniors’ experiences with these areas of hospital care is helpful in understanding how patient flow might be affected by an increased number of seniors in Canada’s future population.

Compared with non-senior adults, seniors have longer lengths of stay in emergency departments. Once hospitalized, they remain in acute care settings longer than their non-senior counterparts—even after their acute conditions have been addressed. Many are waiting to be transferred to a more appropriate care setting, most often long-term care. Existing patient flow pressures, combined with an increasing seniors population, will likely figure prominently in determining the most appropriate role for acute care hospitals as provision of end-of-life care evolves in the future.

Policy-makers may benefit from considering seniors’ unique challenges in these areas. Such understanding may help identify areas where the system could be adapted to better meet the needs of this growing population.
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The aging of Canada’s population will likely put pressure on the health care system to adapt to meet Canadians’ needs, both current and future. This presents health care decision-makers with the opportunity to examine aspects of the health care system that could be improved.
Looking Forward:
Upcoming Challenges

When the first Canadian baby boomer turned 65 in 2011, it marked the beginning of an acceleration in the aging of the Canadian population. Over the
next few decades, the proportion of seniors will grow to make up approximately one-quarter of the Canadian population.1 Much evidence has shown that, on its own, the increasing number of seniors will not threaten the sustainability of Canada's health care system.2, 3 However, the aging of the population has brought several issues to the forefront, including the following: to what extent the Canadian health care system has met seniors' needs up until now, how it will likely need to adapt to continue to meet these needs into the future and how Canadians’ health care needs may change as the population shifts over the next 20 to 30 years.

Summary of Report Findings

This report opened with a description of the seniors population. Life expectancy among this cohort continues to rise, and there is some evidence that the gap between women’s and men’s life expectancy is narrowing. With this in mind, a discussion of the health system’s ongoing sustainability followed. It confirmed that, despite seniors’ more frequent use of the health care system, aging itself has not been the main driver of increases in public-sector health expenditures to date. Across three main sectors (hospitals, physicians and drugs), several other factors had bigger impacts than aging on rising costs over the last decade. Price inflation, rising fees for service and population growth affected mainly the hospital and physician sectors, while increased utilization affected mainly the drug sector.

The discussion moved next to exploring seniors’ use of a wide range of health care services and added context by making comparisons where possible between seniors and non-senior adults. Today’s seniors live largely in the community (93%) with a variety of formal and informal supports, including primary care, prescription medications, home care and informal care. A variety of services are available to seniors when they become acutely ill or when their health deteriorates to the point that they require institutionalization.
Several challenges for the current system were identified. By addressing some of these issues, care for Canada’s seniors could be improved now and in the future. For example, polypharmacy remains an issue, with close to one in every four (23%) seniors taking 10 or more prescription drugs. However, there is some evidence that recommended strategies, such as regularly reviewing medications with family physicians, are not followed by all seniors. In addition, some of the drugs seniors are taking may not be appropriate for people their age, though the use of these drugs among seniors appears to be declining.

Challenges were also identified in other parts of the system—home care, for example. Among the almost 1 million seniors receiving formal home care, more than a third (34%) reported daily pain and 14% reported signs or symptoms of depression. And while 97% of home care clients also have informal support to help maintain their independence, these informal caregivers—typically seniors’ spouses and children—are feeling the stress. Almost one in five informal caregivers (17%) reported distress in their role. Often, the care they provided is required around the clock; social services may be needed to help support these caregivers in their roles. In contrast to home care clients, almost a third (31%) of seniors in long-term care showed signs of depression, almost one in six (16%) reported daily pain and 5% had an advanced pressure ulcer.

When seniors become acutely ill, their waits to receive care are due at least in part to underlying challenges with patient flow across different care settings. Data on wait times in emergency departments and acute care settings shows that seniors wait longer for care than their younger counterparts. For example, 85% of alternate level of care patients (those who have completed the acute care phase of their treatment but remain in an acute care bed) were older than age 65; 47% of these patients were waiting for placement in long-term care.

While today’s seniors are living longer and healthier lives than ever before, future challenges are still anticipated. In addition to growth due to the increased number of seniors, requirements for social support, prescription medications and primary care to help manage multiple chronic conditions are also likely to increase, primarily as a result of growth in multi-morbidity. As Canada’s population ages, there will likely also be a growing need for formal home care and long-term care services.

This report confirms what experts have previously noted—that the aging of Canada’s population will likely put pressure on the health care system to adapt to meet Canadians’ needs, both current and future. This presents health care decision-makers with the opportunity to examine aspects of the health care system that could be improved.
Issues on the Horizon

Many issues play a role in seniors’ use of the health care system. Canada’s aging population will likely compound existing issues with geographic and socio-demographic differences. For example, higher concentrations of seniors in largely rural provinces/territories will likely influence the differences between urban and rural residents, while the increased immigration to Canada of older family members will likely make ethno-cultural diversity and the provision of culturally appropriate services more important.

From a health system perspective, having a system that is responsive to the unique health care needs of seniors will become increasingly important as Canada’s population ages. Researchers and decision-makers have identified a number of strategies that may help the Canadian health care system adapt to seniors’ needs. Four areas where policy-makers could focus are discussed below. Many of the ideas within these areas have at least, in part, already been built into existing provincial/territorial strategies.

1. Improved Integration of Care Across the Continuum

Existing health care delivery systems and organizations were developed to meet acute care needs. Adept at handling these one-time, episodic conditions, these same systems are now facing issues such as fragmentation, inefficiency and poor outcomes (particularly for those with chronic conditions). Some have suggested that delivering appropriate care into the future will require a paradigm shift from episodic, short-term interventions to long-term, comprehensive or integrated care for those with continuing care needs.

Integrated care is especially important in the seniors population, because they receive care from many different providers in various settings. Integrated care systems help keep seniors living at home, without reducing quality of or access to care. Integrated approaches have been shown to reduce stress on the health care system, through fewer hospital visits and reduced hospital stays. In Australia, a trial of integrated care tested the use of a care facilitator who directed patients to their required health care services and education for self-care. This resulted in 21% fewer emergency room visits and 28% fewer hospital admissions.

Currently in Canada there is no shared definition for the concept of integrated health care. The World Health Organization’s European Office for Integrated Health Care Services defines integrated care as “a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion.” Consequently, integration can take many forms, and since the mid-1990s, policy-makers have considered various ways to promote integrated care in Canada.
Integrated care can refer to the seamless movement between care settings, encompassing patient responsibilities, coordination between health and social services (including communication between health care providers) and informal caregivers. Research has shown that integration plays a key role in a high-performing health care system for seniors, who are more likely than younger adults to see multiple care providers.

Moving seamlessly between care settings can be accomplished in different ways. Case managers, for example, coordinate care between providers, thereby ensuring that patients receive all necessary care for their unique set of conditions. Case managers can save time for physicians, nurses and other professionals and help seniors navigate through the many sectors of the health care system. The Program of Research to Integrate the Services for the Maintenance of Autonomy (PRISMA) is an example of an integrated care program developed especially for older and disabled populations. Through the implementation of many elements, including a case management process, the PRISMA model has achieved preliminary success in coordinating care in several areas of Quebec.

Seamless movement between care settings could also be accomplished within a coordinated overall system that combines different health services. Such a system for older adults could include chronic disease management and primary health care, home care, long-term care, end-of-life care and acute care and rehabilitation. Several OECD countries have adopted this approach in their long-term care policies, in response to the complexity of interactions between services. The policies were designed to make services work together more effectively and to manage transitions between services more efficiently. Given the potential improvements to health care delivery and health outcomes as a result of integration, several areas of research along this theme have been recommended. Some areas to consider include how health and social services have been integrated within Canada and internationally, how service integration initiatives that have demonstrated improved service delivery and health outcomes can be implemented within Canadian jurisdictions, and what structural changes and financing resources would be required.

However, despite many successes and substantial evidence of the benefits of integrated care (including those mentioned above), several obstacles remain, both in Canada and abroad. Care may be provided by separate providers/organizations whose funding, incentives or eligibility criteria are not necessarily aligned. Collaboration among providers requires additional time commitments and ongoing communication. Health care professionals across the various health care sectors lack the agreed-upon guidelines and protocols required to effectively guide their behaviour. Differing payment mechanisms for health professionals (for example, fee-for-service versus salary) between disciplines and jurisdictions can impede efforts to integrate as appropriate to a particular patient’s care.
Various approaches to integrated care have been suggested; some offer policy direction, while others propose frameworks to achieve it. Regardless of the specific approach, the overall goals of integrated care are to improve accessibility, quality of care and fiscal sustainability, through optimizing system performance and attaining quality patient outcomes. Participants in a recent roundtable discussion suggested that integrated care could result in better value for money, if successfully implemented. As successful implementation of integrated care will take time, early discussion and planning will ensure that the system is ready to meet the population’s health care needs.

2. Increased Focus on Primary, Secondary and Tertiary Prevention

Researchers have also asserted that initiatives that encourage and support all aspects of healthy living may reduce the demand for health care and other support services, through cost avoidance or shifts to lower-cost sectors. While not limited to seniors, such initiatives can lead to greater health, security and independence in seniors by focusing on the health of the entire population.

One way to promote overall public health is through disease prevention, which can take many forms. Primary prevention serves to protect healthy people from developing disease in the first place. For example, flu vaccinations or fall prevention programs may be particularly helpful in preserving good health in the elderly. Secondary prevention aims to slow or even reduce the burden of illness once a disease is already present. For example, regular blood pressure checks for people with hypertension may help them manage the condition and avoid or delay complications such as strokes.

Tertiary prevention focuses on helping people manage complicated, long-term health problems. Aspects of chronic disease management, traditionally considered part of tertiary prevention, can be considered secondary prevention if introduced early enough in the disease cycle. For example, options now exist for diabetes patients to self-monitor their blood glucose and blood pressure using telephone and mobile technology. These inexpensive, fully automated telemonitoring systems provide immediate feedback and action messages to patients, summary reports of home blood pressure readings and critical alerts to physicians. Initial findings suggest that such measures are effective in helping to manage these conditions, which in turn can help prevent more serious complications from manifesting.
Current generations are benefiting from successful prevention initiatives of the recent past. For example, a recent study following Toronto’s ban on smoking in public places found a 17% decrease in acute myocardial infarction (AMI) hospitalization rates and a 39% decrease in hospital admissions due to cardiovascular conditions. Alcohol consumption and alcohol-related mortality are positively associated, with reductions in the former mirrored in the latter. While obesity has become more prevalent in recent years, the effects on the population’s health from efforts to promote healthy body weights have yet to be determined.

In the health care system, collaboratives have been developed to make recommendations on preventive measures based on best practices. For example, the Canadian Task Force on Preventive Health Care was established with the support of the Public Health Agency of Canada. Past recommendations from this group have focused on preventing weight gain and obesity in adults (2006), preventing falls in long-term care facilities (2005) and preventing influenza in the general population (2004). Currently, the task force is developing new or updated guidelines for prevention and screening of several chronic conditions, including hypertension, diabetes, obesity, depression, and breast and cervical cancers.

There are many examples of specific prevention programs and initiatives across the country. Two of special significance to seniors—flu vaccinations and falls prevention—were highlighted earlier in this report. Attention should be paid to a more consolidated strategy for prevention efforts and policies that focus on promoting the health of the population as a whole. Improving the health of the population now will result in significant cost savings for the system in the future—for example, fewer patients in acute care beds improves access for those waiting for these services—and will ultimately ensure that Canadians continue to live long and relatively healthy lives.

3. Adoption and Efficient Use of New Technologies

Many new technologies are emerging, with expected benefits to the health care system and its users. Some technological advances are in the early stages of development; with time, such technologies may be of particular service to older Canadians. Other advances, such as telehealth—the delivery of services by health care organizations using information and communications technology solutions, when the clinician and patient are not in the same location—are more widely applicable.

The applications of technology to health care are extremely varied. Some initiatives are targeted for use by the providers of health care. For example, implementation of a nationwide electronic health record (EHR) has been promised for every Canadian by 2016. The potential benefits of a national EHR include enhanced coordination of care among providers; improved transitions between primary, acute, home and residential care settings; and better access to complete and detailed health information on each patient.
Other applications are targeted to the patients themselves. While some evidence suggests that seniors are less likely than younger adults to adopt new technologies, there are innovative pilot programs that encourage increased uptake of these technologies by seniors. For example, Alberta provided funding in 2011 for new technologies aimed at augmenting at-home senior services. Technologies such as wander management systems, personal emergency response programs and medication management systems will be tested by clients in Grande Prairie and Medicine Hat during a two-year pilot project, with an evaluation phase following. These technologies aim to make more efficient use of home care services and reduce emergency hospital visits. This program was devised in response to the growing number of Albertans using home care services (currently estimated at 107,000 seniors) and the shortage of home care workers.

Still other applications are aimed at informal caregivers and family members, to help seniors maintain their health in their communities. Among the technologies being tested is a medication monitoring system equipped with both a sensor-trigger system and a camera that sends a video clip to family members anywhere in the world, allowing them to watch and ensure that their relative has taken the proper dose at the right time. A few devices have also been created to help caregivers of people with dementia. Flexible bed mats with pressure sensors let them know when their family member has woken up and is moving. This flags the need to check whether the person is disoriented and likely to fall. As well, magnetic door sensors send an email, text message or cell phone message to caregivers if a person with dementia goes outside unattended.

The evidence on whether new and emerging technologies necessarily equate to better care and outcomes remains unclear. For example, technological advances in end-of-life treatment can prolong life but not necessarily in good health. Research suggests that some of the recent increases in MRI, PET and CT scans may be unnecessary, as older, less expensive and more readily available diagnostic technologies—such as X-rays—may be equally effective in diagnosing some conditions. Similar arguments can be presented for certain prescription medications—for example, angiotensin receptor blockers (ARBs), which are used to treat high blood pressure. Although shown to be effective only in patients who cannot tolerate the side effects of other, older drug classes, ARBs are being used increasingly by the broader population.

Quantifying the impact of technology as a driver of health care costs remains difficult. Despite the fact that technology generally increases cost in the short term, technology can also be a major factor in reducing costs in the medium to long term. While technological change has been a major underlying cost driver in the drug sector over the last decade, it is likely to also significantly impact both the hospital and physician sectors in the future, emphasizing the importance of continuing health technology assessments. As the system
monitors the costs and benefits of both new and existing technologies, impacts on system resources and patient outcomes will be better understood. Results of such evaluations can help policy-makers understand where best to focus limited resources. Needs assessments can help identify where emerging technologies should be pursued and where older standards of care may be more appropriate. In Canada, such evaluations are conducted by agencies in many provinces as well as by the Canadian Agency for Drugs and Technologies in Health (CADTH), a not-for-profit agency that delivers evidenced-based information about the effectiveness and efficiency of health technologies.32

4. Better Information for Policy-Making

Having the information to understand whether high-quality care is available across the system and where resources are being used most effectively allows policy-makers to make better decisions. With growing pressure to tighten health care budgets, performance measurement offers policy-makers an opportunity for continuing health system improvement and accountability.33 Many have recognized that before performance can be managed, it must be measured. Measurement includes collecting high-quality information, calculating comparable measures and using the results to work toward improvements. It also includes improving data collection and data quality. For example, researchers have suggested that too little information exists on the safety and effectiveness of drugs used in real-world settings (meaning outside of clinical trials). More information would benefit regulators, policy-makers, health care providers and patients, and would allow for higher-quality research in Canada.34

Better information can also help policy-makers identify and understand key issues across sectors of care. Impeding progress in this area, however, is the fragmented nature of health care data, which some have argued has not kept pace with the evolution of health care delivery models.35 Continuing and expanding upon the existing data collection efforts in such centralized data holdings as the Home and Continuing Care Reporting Systems, National Ambulatory Care Reporting System, National Prescription Drug Utilization Information System, National Rehabilitation Reporting System and the Primary Health Care Voluntary Reporting System would allow for more detailed research across the continuum of care. The quality indicators derived from the standardized assessment instruments developed by interRAI (discussed in Chapter 5) underscore how such information can measure variation and identify opportunities for improvements in care.
Decision-making would further be supported by information shared seamlessly between systems. However, existing data-sharing protocols often do not allow for this. This issue becomes particularly salient when near-instant access to information is often available in other realms, through tools such as the internet and social media channels. In addition, to fully understand what happens as an individual moves between various providers and types of service, health care data must be recipient-centred. Experts have argued that the data systems used to populate many national-level data sources are not as integrable as required to provide the foundation needed for population-level analyses.

Informed comparisons can provide policy-makers, health system managers and health care professionals with valuable information that can be used to improve the safety, quality, timeliness and effectiveness of the health care system, as well as improve the patient experience. Collecting comparable and high-quality data can allow performance measures to be calculated, which in turn inform policy-makers’ and program planners’ decisions about where quality improvement efforts are best focused.

Putting the Pieces Together

This report has provided information on a wide range of topics specific to seniors’ health care needs and their use of the health care system. Seniors are a diverse group; on several measures, younger seniors (those age 65 to 74) are more similar to non-senior adults. With advancing age, the likelihood of multiple chronic conditions increases, as does the need to access support services, and a more complex mix of prescription medications is required to maintain health and independence.

In the near future, policy-makers will likely have to make difficult decisions to ensure that Canada’s health care system is able to accommodate the needs of the increasing number and proportion of seniors in the population. This report has suggested areas for concentrating future research and evaluation efforts and areas where Canada’s policy and decision-makers may wish to focus attention in order to maintain a strong health care system for current and future generations.
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