The Chief Public Health Officer's

Report on the State of Public Health in Canada

2010

Growing Older — Adding Life to Years

Canada

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A Message from Canada's Chief Public Health Officer

Dr. David Butler-Jones
Canada's Chief Public Health Officer

Canada's population is getting older. Our country is not alone in this respect or in the fact that our population is living longer and doing so in relatively good health. This is a testament, in part, to our collective achievements in public health and medicine. As our population grows older, we are reminded that the older members of our society are critical contributors to the successes that we enjoy today as well as having importance to our past. In this report, I have chosen to focus on the health and well-being of Canada's aging population and where action is needed to make the greatest difference in their lives, now and in the future.

Within a decade, almost one out of every five of us in Canada is going to be a senior citizen. Twenty years after that, it will grow to one in four. How this impacts our society in terms of economics, health care and services is top of mind for many, especially with regard to the need for investments now to ensure we are better able to adapt to these changes in the years to come.

Health promotion, injury prevention, and efforts to encourage and increase social participation and inclusion should be seen as essential investments that can save money, maintain and improve quality of life, and drive healthy economies. As is often cited in health circles, prevention is preferable to treatment. Our ability to support the needs of an older population – and ensuring this population is engaged in our efforts – will go a long way to determining our future success in achieving healthy aging. It is something from which all Canadians can benefit.

Within this report, I illustrate the state of health and well-being of Canada's seniors and identify some areas of concern where we – as a country – can make a concerted effort to do better, such as falls and related injuries, mental health, abuse and neglect, social connectedness, healthy living, and care and services. While Canada has laid the foundation for good health and well-being across the lifecourse, further action in these areas is needed to maintain quality of life for seniors as this population grows and resources are challenged. Effective programs and initiatives undertaken now can contribute to the overall goal of healthy aging in Canada, both in the short term and well into the future.

I have looked at the evidence around the causes and circumstances of falls and related injuries among seniors that suggests they can be prevented to some degree. Given that the outcomes associated with falls can quickly

The idea is to die young as late as possible – Ashley Montagu

Message

and negatively impact the health status of seniors and their families, this is an area where efforts hold promise of substantial returns. The importance of mental health cannot be understated and I am concerned about the shortcomings in addressing this issue in relation to seniors. The impact of abuse and neglect – and, on the other side of the spectrum, of social connectedness and healthy living – reaches across all areas of seniors' health and well-being, so efforts in these areas are likely to result in broad positive returns.

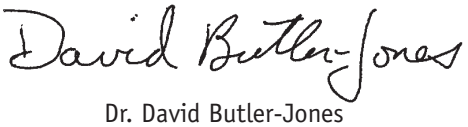
Further, while most seniors report that they are well-functioning overall, I know that certain subpopulations of seniors are at greater risk of poor health because of factors such as reduced access to care and support services, unsafe living environments and isolation. Included in this group are those who live in low-income, live in rural and remote communities, or are Aboriginal or recent immigrants. Throughout this report I have endeavoured to raise this issue when discussing key areas of concern. It is imperative that additional efforts be made to target assistance to these groups.

Issues of concern highlighted in this report are not always inevitable or irreversible. We must determine how best to manage our efforts in an effective and meaningful way to positively influence outcomes associated with these issues. Solutions to our shared challenges will not be easy to find, but even small changes can make a difference. In order to improve the conditions for Canadians, we will need to promote healthy aging, sustain healthy and supportive environments, and improve our data collection and knowledge for this population. Further, we will need to continue to strengthen our networks and partnerships, which will help us address the basic needs of our population as it ages and better tackle the increasing requirement for informal and formal care.

How well we age as a population and as individuals is not just a result of genetics and behaviours, but also of social conditions and the environments around us. While we look to establish safe and healthy surroundings for seniors, we can't overlook the importance of creating and nurturing a culture of respect. Recognizing the unique, critical and fundamental role that seniors can play, and will increasingly play in our society, is of great value to all Canadians including seniors themselves.

The role of public health is to make connections – to highlight the links between exposures and outcomes, identify trends, recognize where efforts are lacking or are making a difference – and to help find collective solutions. For this reason, public health will always have a vital and enduring role to play in the health and well-being of all individuals – from birth to end of life.

In 20 to 30 years, when one-quarter of Canadians are considered seniors, we don't want to find ourselves with unsupportive and unsafe environments, or without access to care. As this report demonstrates, our work ahead is a long-term endeavor. We have the tools and desire to do better, and our actions will have an impact on all Canadians as they live, grow and age.



Dr. David Butler-Jones

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Executive Summary

This is the Chief Public Health Officer's third annual report on the state of public health in Canada. The report examines the state of health and well-being of Canada's seniors, including factors that positively or negatively influence healthy aging such as falls and related injuries, mental health, abuse and neglect, social connectedness, healthy living, and care and services. From this examination, priority areas for action are identified where Canada can further foster optimal conditions for healthy aging.

Canada's experience in setting the stage for healthy aging

Given that individuals and populations are growing older, all Canadians have a vested interest in creating and maintaining opportunities to age well. Healthy aging is an ongoing process of optimizing opportunities to maintain and enhance physical, mental and social health, as well as independence and quality of life over the lifecourse.

A healthy aging approach considers factors impacting seniors, including earlier events and experiences in life that can influence health and quality of life as individuals age. The approach envisions a society that supports and values the contributions of seniors, appreciates diversity, works to reduce health inequalities, and provides opportunities for Canadians to maintain independence and quality of life and to make healthy choices across the lifecourse.

From a public health perspective, consideration of the lifecourse approach can help to ensure healthy aging is considered in the context of the entire lifespan rather than merely as a late-life phenomenon. It can also facilitate the identification and interpretation of trends in the health of populations, as well as the links between time, exposure to a factor or combination of factors, experiences and later health outcomes. In doing so, it allows for the development of appropriate interventions, programs and policies across the lifecourse.

A brief historical overview of some of Canada's many successes and challenges in setting the stage for healthy aging shows that past efforts have positively influenced the health of seniors over time. It also points to some broad challenges that lie ahead – like the continued prevalence of unhealthy lifestyles and chronic diseases.

As Canada's aging population grows, the need to identify and integrate opportunities to address these challenges and to promote healthy aging will become increasingly apparent. However, answering this need effectively will require widespread understanding that healthy aging is not simply about seniors; it is an issue that affects all age groups and generations. In order to ensure Canadians are healthy for as long as possible, opportunities must exist at all stages of life to have, maintain and enhance good physical, mental and social health.

The health and well-being of Canadian seniors

Over the past 30 years, the proportion of the population made up of those aged 65 years and older has increased from 9% of the population in 1978 to 14% in 2008. By 2050, seniors are projected to comprise 27% of the Canadian population. The life expectancy of Canadian seniors has also been steadily increasing over time. In 2006, seniors who turned 65 years of age could expect to live an additional 20 years. However, the increase in life expectancy for Aboriginal peoples continues to lag behind that of other Canadians and, among the general population, women continue to outlive men. The three main causes of death for seniors in 2006 were circulatory diseases, cancers and respiratory diseases. Among the less frequent causes of death were those due to injuries, with 41% of all injury related deaths being due to falls.

In 2009, chronic conditions were widespread among seniors, with 89% living with at least one chronic condition and many experiencing multiple chronic conditions. One in four seniors aged 65 to 79 years and more than one in three of those aged 80 years and older reported having at least four chronic conditions, including arthritis or rheumatism, high blood pressure, diabetes, heart disease, cancer, stroke, Alzheimer's disease, cataracts, glaucoma, mood disorder and anxiety disorder.

Falls are the most common cause of injuries among seniors in Canada, with an estimated one in three seniors likely to fall at least once each year. Risk factors for falls among seniors include chronic and acute illnesses, mobility or balance issues, medications and cognitive impairment. While most eventually heal from their injuries, many never fully recover and may experience

chronic pain, reduced functional abilities, curtailment of activities, institutionalization and even death.

Unhealthy weight is a consideration in the health of seniors. As in all age groups, obesity can increase the risk of poor health outcomes in seniors. Of note, 29% of seniors were considered obese in 2008 and this number is rising. Being underweight can also place seniors at risk of poor health, with outcomes ranging from malnutrition and osteoporosis to mortality.

Individual behaviours play an important role in the health of seniors. For example, physical activity and proper nutrition can help prevent illness, contribute to maintaining independence and result in positive mental health outcomes. The fact that the majority of seniors in Canada are physically inactive and do not eat a balanced diet is therefore cause for concern. The rates of smoking and alcohol use by Canadian seniors are lower than for younger cohorts, yet 6% to 10% of seniors exhibit problem alcohol use.

Use of medications can have both positive and negative health outcomes for seniors. When surveyed, over three-quarters of Canadian seniors living in private households reported using at least one medication (prescription and/or over-the-counter) in the past two days and 13% had used five or more different medications. These numbers were even higher for seniors living in institutions (97% and 53% respectively). With such high rates of medication use, it is disconcerting that approximately half of prescriptions taken by seniors are not used properly. This may reduce the medication's effectiveness or endanger the senior's health.

Most seniors are satisfied with their lives in general (97%) and feel that they have at least very good mental health (70%). However, an estimated 20% of seniors living in the community and 80% to 90% of seniors living in institutions have some form of mental health issue or illness. Sometimes mistaken as a normal part of the aging process, these issues often begin in early life, where negative experiences and circumstances can contribute to reduced mental health over the lifecourse. However, later life transitions or conditions can also pose mental health challenges.

Among the most prevalent mental health issues affecting seniors are Alzheimer's disease and other dementias, depression and delirium. Dementia impacts approximately 400,000 Canadian seniors, with numbers expected to double within 30 years. Seniors who live within the community tend to have lower rates of diagnosed depression (1% to 5%) compared to seniors living in long-term care facilities (14% to 42%). A recent study of Canadian seniors living in residential care found that 44% had either been diagnosed with depression or showed symptoms of depression without diagnosis. For senior women the prevalence of Alzheimer's disease and related dementias and depression is higher than senior men, although the reasons for this are not known. Delirium (also known as acute confusion) is another mental health condition found most commonly among seniors. In many cases, delirium is not recognized or is misdiagnosed. While the number of seniors who experience episodes of delirium is unknown, it is thought that 32% to 67% of seniors with the condition go undiagnosed.

Low-income can impact negatively on health. Seniors living in low-income may be unable to access nutritious foods, have difficulties paying their mortgage, rent or utilities, be unable to complete necessary repairs on their homes, and may have limited access to transportation and non-insured health services. Over the last 30 years, the number of seniors living in low-income has declined substantially from 29% in 1978 to 6% in 2008. The *Luxembourg Income Study* has credited Canada's pension system as being a major factor in the shift from Canada ranking as a nation with one of the highest occurrences of low-income seniors in the late 1980s to one of the lowest in the mid-2000s. However, low-income among some seniors persists. Aboriginal seniors and immigrant seniors – especially those living alone – continue to experience unacceptably high numbers of their populations living in low-income.

The social well-being of seniors can also play a part in healthy aging and is influenced by a number of factors, including satisfaction with life, social connectedness with others, and whether or not seniors are productive and active within their communities. Those lacking social support networks can experience feelings of loneliness and isolation and lack a sense of belonging. In 2003,

more than 60% of seniors who reported a strong sense of community belonging also reported good health.

Life circumstances such as living arrangements, retirement and geographic proximity to family can play a role in seniors' level of social connectedness. Those who remain connected through activities such as organizational involvement or volunteering can maintain a sense of purpose and belonging. In 2007, more than one-third of seniors volunteered in some capacity and, on average, contributed more hours annually than any other age group.

Retirement can be a significant change for many individuals and can influence a seniors' standard of living, daily activities and social networks. Those who reported good to excellent health entering retirement also indicated an increase in life satisfaction post-retirement. However, not all Canadians retire when they reach seniors status and some choose to return to the labour force after retirement. Over the last two decades, there has been an increase in the number of seniors participating in the paid workforce (11% in 2009 versus 7% in 1990), with men more than twice as likely to do so as women.

Canadians, regardless of age, occasionally depend on social networks of family, friends and neighbours to help with errands and daily tasks. In 2003, 29% of seniors aged 75 and older reported receiving help from someone outside their home for transportation or running errands. And while some seniors are recipients of assistance and care, many are also caregivers. In 2007, 16% of caregivers aged 65 to 74 years and 8% of caregivers aged 75 years and older provided some form of unpaid/informal care to another senior.

Having access to appropriate care and services is important for all Canadians in order to maintain and improve their health and well-being. For seniors, this can include a wide range of resources and support such as physician services, in-home care and social support. In 2003, 15% of seniors' households reported receiving either formal or informal care. Of those requiring intense, ongoing care that cannot be provided at home, most are likely to reside in long-term care facilities.

Factors affecting seniors' access to care and services include availability of resources and health information, awareness regarding community health services and inclination to inquire about these services. Transportation issues (including costs associated with travel) and physical mobility issues can also limit seniors' access to care and services, as can financial concerns stemming from the costs associated with items such as prescription medications and assistive devices. Seniors who are Aboriginal, part of an ethnic minority group or who are new to Canada may face additional barriers to accessing proper care and services, such as conflicting cultural values or language barriers.

Health literacy is also an issue. In order to manage chronic conditions or other health problems and to make healthy lifestyle choices, seniors need to be able to read and interpret nutrition labels, follow dosage directions for medications and understand health information and instructions. Of concern, only one in eight adults over age 65 has the adequate health literacy skills required for many basic health-related decisions.

Physical, psychological and financial abuse or neglect can greatly impact the well-being of seniors. For example, those who have experienced abuse have been found to have higher rates of depression and anxiety than those who have not been subjected to abuse. While it is difficult to know the extent to which this problem exists in Canada, available research indicates that between 4% and 10% of seniors experience one or more forms of abuse or neglect from someone they rely on or trust. Certain sub-groups of seniors, including women, the frail, and those who have a cognitive impairment or physical disability, are more likely to experience abuse or neglect. Physical illnesses and disability coupled with dependency and the need for greater care also place seniors at higher risk.

Setting conditions for healthy aging

Opportunities to prevent illness and promote health can be introduced through initiatives and interventions at all stages of the lifecourse. Making progress on the key areas of concern for seniors covered in this report – falls and related injuries, mental health, abuse and neglect, social connectedness, healthy living, and care and services – necessitates consideration of best practices, strategies and approaches that demonstrate what can be accomplished in these areas and highlight where more work needs to be done. An examination of underlying

conditions, such as meeting basic needs and having supportive age-friendly communities and environments, is also necessary when considering actions that support healthy aging.

Having adequate income is fundamental to healthy aging and Canada has been effective in reducing seniors' poverty mostly due to government income programs and public pensions that offer widespread eligibility. However, more can be done to support subpopulations of seniors living with incomes below the after-tax low-income cut-offs. It is also important to consider that all seniors can be disproportionately vulnerable to an interruption in having their basic needs met, especially during or after emergencies. During emergencies seniors can also play an important role as volunteers and caregivers and by contributing specific skills and knowledge in order to help others meet their basic needs. In Canada, multi-sectoral and partnership work is underway to address the role of seniors and their vulnerability during these critical events.

Being able to age in a place of choice is another significant component of healthy aging. While most Canadian seniors report preferring to live in their own homes, evolving circumstances may encourage or force seniors to move. Programs that offer home assistance or that pay for home adaptations can help extend the amount of time low-income seniors can live independently and in their own homes. The age-friendly cities approach creates healthy aging environments that are of benefit to all age groups and levels of ability by incorporating factors such as: universal design; accessible spaces; available/accessible transportation and housing; social and economic opportunities; and community support and access to appropriate health services. Canada has played a leading role in creating age-friendly environments, and has also created a guide for rural and remote communities.

Among the key areas covered in this report is falls and injury prevention. There are five approaches detailed that can contribute to reducing falls and preventing injuries, or can mitigate the impact of these events on the health of seniors, including: developing falls prevention guidelines; increasing broad education and awareness programs; supporting healthy behaviours and choices; preventing falls by creating safer environments; and addressing driving-related injuries. While guidelines do not directly prevent falls, setting practices, standards, and management and assessment applications can contribute to overall falls prevention. So too can appropriate educational programs and awareness campaigns targeted at practitioners, community members, families and seniors to increase the understanding of the risks and consequences of falling and the benefits of prevention strategies. Initiatives that focus on addressing risk factors such as exercise programs to improve balance and strength, appropriate use of assistive devices, and drug management practices have had some success. For injury prevention due to motor vehicle crashes, efforts to address seniors' road safety involve raising awareness of safe driving practices, as well as conducting research to identify, analyze and examine the issues around safe motor vehicle operation by seniors.

Positive mental health is an important aspect of healthy aging that should be supported throughout the lifecourse. Efforts to improve mental health and well-being that target behaviours and other socio-economic determinants of health can make a difference, as can initiatives that create and support more inclusive communities and environments. Stigma related to mental health must be addressed given the adverse impact it can have on health and social outcomes – especially for seniors who may experience stigma associated with both old age and having a mental health issue. Increasing awareness of mental health disorders and the importance of good mental health can help in this regard. While some anti-stigma programs undertaken in Canada show promise – including the relatively recent launch of the Mental Health Commission of Canada's anti-stigma/anti-discrimination campaign – more can be done to specifically address this issue for seniors. The establishment of knowledge networks has had some success in sharing practices, guidelines and research in areas of seniors' mental health that can lead to more effective, targeted interventions. A Canadian initiative to support research and share information on this issue would complement these efforts, as would the development of broad mental health strategies for all Canadians.

The abuse and neglect of seniors is often a hidden, underreported issue with limited data and information. Interventions such as laws and policies are necessary for the protection and health of all Canadian seniors.

Although criminal, family violence, adult protection and adult guardianship laws do protect seniors from abuse and neglect, their success can be hindered by a lack of awareness and a reluctance to pursue action under these laws. Prevention involves: increasing the capacity of social and health professionals to identify abuse and find appropriate supports; raising awareness among seniors, their families and others about the issue of abuse and neglect and about existing supports; and informing seniors of their rights and actions. The goal of education and awareness programs is to reduce stereotyping and age-based assumptions, as well as to target a range of audiences. Supporting these efforts includes creating knowledge and information networks to identify current and emerging issues, develop strategies and frameworks, and share information and best practices. And it requires coordinated community-based efforts that map resources, develop common understanding of this issue and build communication and service networks.

Social connectedness directly influences health and well-being, and initiatives that address social isolation and promote a sense of community and belonging are of importance across the lifecourse. For seniors, social engagement and minimizing marginalization can depend on access to community facilities, transportation and affordable activities, as well as on having a meaningful role in society. Part of valuing seniors is recognizing the important contributions they make to society. Among those contributions is volunteering, which can have positive health outcomes for seniors in two ways: as recipients of volunteer efforts associated with informal care networks and other activities that include and involve seniors; and as active participants in volunteering, working and interacting with others and providing many valuable volunteer hours. Establishing a greater understanding of what motivates seniors to become involved in volunteering will help with future efforts to promote this activity among seniors, maintain their involvement and recognize their valuable contributions in this area. Enhancing opportunities for social connectedness also involves challenging negative views of aging (ageism). Intergenerational initiatives between seniors and youth, such as those in some First Nations, Inuit and Métis communities, can promote the value of aging by recognizing the knowledge and expertise found among seniors and initiating and strengthening respect for the contributions they make to society. These initiatives are often rewarding for all participants and can help to bring balance to the broader community.

Engaging in healthy living practices can improve, maintain and enhance health and well-being. Across the lifecourse, creating conditions for individuals to chose and behave in ways that support healthy lifestyles (such as staying physically active and eating well) and discourage choices and behaviours that are detrimental to health (such as smoking and excessive drinking) contributes to healthy aging. Education and awareness about the benefits of active living specifically targeted to seniors can help to challenge assumptions about age and capacity. Social programs that encourage seniors to cook for themselves or dine with others can promote better eating practices and contribute to social connectedness. Efforts to promote healthy behaviours, such as physical activity guidelines and smoking cessation initiatives, are of benefit to all age groups but would be most beneficial to seniors if they acknowledged and addressed the unique needs and circumstances of this population. Further, encouraging healthy behaviours such as physical activity can only translate into action if seniors encounter environments that are safe, barrier-free, accommodating and affordable. Health literacy is an important issue among seniors, as those who lack health literacy may not have the skills necessary to make basic health decisions and to access and accurately assess relevant health information. Addressing health literacy challenges involves a multi-stakeholder approach to ensure at-risk seniors receive and understand the information they need to make healthy choices and to access appropriate programs and services. Initiatives to promote and offer opportunities for lifelong learning can also contribute to these efforts.

Quality care and accessible services are another important component in achieving healthy aging. In Canada, much caregiving is provided through informal channels. Some progress has been made to provide support to informal caregivers which include various tax deductions and credits, and the introduction of programs such as the *Employment Insurance Compassionate Care Benefits Program* that provides financial support to caregivers who require time away from their jobs to take care of gravely

ill family members or friends and has also made inroads in supporting caregivers though work flexibility arrangements. While these efforts contribute to the support of informal care and caregivers, more can be done such as recognizing and acting on the need for further information about who is giving care, what the impacts are on the givers and recipients of care, the supports/information caregivers require to continue in their vital caring role, and the effectiveness of the care being delivered when many remain untrained.

Also important is the need to address challenges in the continuum of care along a range of care needs – from home care to palliative care. This includes ensuring seniors' access to affordable supportive housing with appropriate levels of care, tackling issues of unmet needs for care and services, working through transitions between levels of care. When devising efforts to address these issues it is important to recognize that an integrated strategy within a Canadian context may be difficult to coordinate given the federal/provincial/territorial environment within which it would be required to operate.

Toward healthy aging

Healthy aging benefits all Canadians. Canada has made progress in creating the conditions necessary for healthy aging, resulting in a vibrant aging society and one of the highest life expectancies in the world. However, as Canada faces a larger older population, efforts made toward healthy aging need to be managed in more effective and meaningful ways. Further, the efforts need to focus on what can be done for seniors now and for all Canadians earlier in the lifecourse in order to impact the health and well-being of seniors in the future.

Moving forward requires building on existing initiatives and measuring their impact so positive changes can be better realized. Understanding what makes some programs and initiatives successful and building frameworks for effective strategies will also be necessary to continue to make progress on the health of seniors in Canada.

Six areas for action where Canada can create conditions for healthy aging include:

- tackling issues of access to care and services;
- improving data and increasing knowledge on seniors' health;
- valuing the role of seniors and addressing ageism;
- targeting the unique needs of seniors for health promotion;
- building and sustaining healthy and supportive environments; and
- developing a broad falls prevention strategy.

Progress in these areas will take strong federal/provincial/territorial collaboration and will require participation from all sectors of Canadian society. Failing to take action will have an impact on all Canadians as they age. As a society, we can build on our existing momentum and be a leader in seniors' health and healthy aging to ensure that all Canadians are able to maintain their well-being and quality of life throughout their senior years.

Introduction

CHAPTER 1

This is the Chief Public Health Officer's (CPHO) third annual report on the state of public health in Canada. This report examines the state of health and well-being of Canada's seniors, including factors that positively and/or negatively influence healthy aging such as falls and related injuries, mental health, abuse and neglect, social connectedness, healthy living, and care and services. From this examination, priority areas for action are identified where Canada can further foster optimal conditions for healthy aging.

Why a report on the state of public health in Canada

Canada's CPHO has a legislated responsibility to report to the Minister of Health and Parliament on an annual basis through a report on the state of public health.[1]

The Public Health Agency of Canada and the position of Canada's CPHO were established in September 2004 to strengthen Canada's capacity to protect and improve the health of Canadians.[1, 4] In 2006, the *Public Health Agency of Canada Act* confirmed the Agency as a legal entity and further clarified the role of the CPHO (see Textbox 1.1 *The Role of Canada's Chief Public Health Officer*).[1, 5]

Goals of the report

The CPHO's reports are intended to highlight specific public health issues that the CPHO has determined warrant further discussion and action in Canada, and to inform Canadians about the factors that contribute to improving our health. These reports do not represent Government of Canada policy and are not limited to reporting on federal or provincial/territorial activities. As such, they are not intended to be frameworks for policy but rather a reflection of the perspective, based on evidence, of the CPHO regarding the state of public health

Public health is defined as the organized efforts of society to keep people healthy, prevent injury, illness and premature death. It is the combination of programs, services and policies that protect and promote the health of all Canadians.[2, 3]

CHAPTER 1

Introduction

across the country. The reports are designed to inform Canadians of important health issues and their potential impact on health trajectories and to highlight best practices for moving forward as a society in achieving better health outcomes. Within each report, proven and promising evidence of success among various communities and countries is outlined, including programs and activities that can serve as potential models for future consideration and inspire action and collaboration among levels of government, jurisdictions, various sectors, communities, organizations and individuals.

The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future concluded that Canada, as a society, needs to ensure all Canadians have opportunities, at all stages of the lifecourse, to have, maintain and enhance good physical and mental health for as long as possible.[6] This report, *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2010: Growing Older – Adding Life to Years*, builds upon that discussion and focuses on the state of health and well-being of Canada's seniors and the importance of creating and maintaining opportunities for healthy aging throughout the lifecourse.

Who this report is about

While this report focuses specifically on the health of seniors, it is about all Canadians. Everyone has a role to play and can benefit from opportunities for healthy aging, now and in the future.

Throughout this report the generic term 'senior' is used. While there is no consistent definition for a senior, it is based on available data, health issues and public health activities that often focus on those aged 65 years and older. It is recognized that some subpopulations have lower life expectancies due to factors influencing health and as a result may age prematurely and be considered a senior earlier than age 65. However, for the purposes of this report, the term senior will refer to this specific age group (65 years and older).[7, 8] Other terms such as elderly and frail are not used in the report (unless it is language used within a program description), as these are considered to be descriptive terms.

The report also refers to 'Canadians' to denote all people who reside within the geographic boundaries of the country. In some instances, special terms are used to identify particular groups. The term 'Aboriginal' is used to refer collectively to all three constitutionally recognized groups – Indian, Inuit and Métis. Although not constitutionally recognized, the newer term 'First Nations' is used to describe both Status Indians, recognized under the federal *Indian Act*, and non-Status Indians. When data exists to support discussion about these distinct population groups, specific details are provided for clarity.

What the report covers

The following identifies the chapters contained within the report, along with a brief summary of the topics covered within each chapter.

Canada's Experience in Setting the Stage for Healthy Aging. Chapter 2 introduces the concepts of healthy aging and the lifecourse by exploring various milestones in Canada's history and highlighting successes and challenges in establishing conditions for healthy aging.

The Health and Well-being of Canadian Seniors. Chapter 3 describes the current health status of Canada's senior population from four perspectives – physical health, mental health, economic well-being and social well-being – including factors influencing their health.

Setting Conditions for Healthy Aging. Chapter 4 highlights what can be done to maintain and improve conditions for healthy aging using examples of promising and/or successful interventions, programs and policies. The examples provided have either shown evidence of success and could be applied more broadly, or are areas of promise where further work and investigation is required.

Toward Healthy Aging. Chapter 5 outlines what has been learned from earlier chapters and defines priority areas for action. Based on these priorities, recommendations and commitments to healthy aging are proposed.

Textbox 1.1 The Role of Canada's Chief Public Health Officer

The Chief Public Health Officer:

- is the deputy head responsible for the Public Health Agency of Canada, reporting to the Minister of Health;
- is the federal government's lead public health professional, providing advice to the Minister of Health and Government of Canada on public health issues;
- manages the Public Health Agency's day-to-day activities;
- works with other governments, jurisdictions, agencies, organizations and countries on public health matters;
- speaks to Canadians, health professionals, stakeholders and the public, about issues affecting the population's health;
- is required by law to report annually to the Government of Canada on the state of public health in Canada; and
- can report on any public health issue, as needed.[5]

In a public health emergency, such as an outbreak or natural disaster, the Chief Public Health Officer:

- briefs and advises Canada's Minister of Health and others as appropriate;
- works with other departments, jurisdictions, and countries, as well as with experts and elected officials to deliver information to Canadians;
- directs Public Health Agency staff as they plan and respond to the emergency; and
- coordinates with federal government scientists and experts, and with Canada's provincial and territorial chief medical officers of health, to share information and plan outbreak responses.[5]

Canada's Experience in Setting the Stage for Healthy Aging

CHAPTER 2

The proportion of seniors in Canada is increasing more rapidly than that of any other age group and, if population projections remain consistent, there will be a higher proportion of seniors than children by 2015.[9] The World Health Organization (WHO) states that an aging population is a triumph of modern society.[10] A population that has aged shows that social and health practices have been put into place that have extended life and reduced premature deaths earlier in the lifecourse. Over time, Canada has created conditions for a healthy population, in part, due to addressing issues associated with the determinants of health. However, the growth of an aging population requires that Canada find additional ways to maintain and improve the conditions necessary for continued good health in the senior years.

This chapter will take a historical look at some of Canada's many successes and challenges in setting the stage for healthy aging through selected key milestones. It will also highlight certain policies, advancements and difficulties that have influenced the health of seniors over time and point to some broad challenges that lie ahead.

Healthy and active aging

Given that individuals and populations are growing older, all Canadians have a vested interest in creating and maintaining opportunities to age well.[12, 13] Healthy aging is an ongoing process of optimizing opportunities to maintain and enhance physical, social and mental health, as well as independence and quality of life over the lifecourse.[11, 12]

A healthy aging approach considers factors impacting seniors but also includes an understanding of how earlier events and experiences can create conditions to influence health and quality of life as individuals age.[10] The approach envisions a society that supports and values the contributions of seniors, appreciates diversity and works to reduce health inequalities. It also provides opportunities for Canadians to maintain independence and quality of life and to make healthy choices across the lifecourse.[10] Interventions, programs and policies that have shown some success or promise in creating conditions for healthy aging will be explored further in Chapter 4.

Healthy aging and active ageing

Several terms describe the process of maintaining physical, social and mental health for as long as possible. Although the term healthy aging will be used most often in this report, other terms such as active aging have similar definitions.

In Canada, the term healthy aging is most commonly used. **Healthy aging** describes the process of optimizing opportunities for physical, social and mental health to enable seniors to take an active part in society without discrimination and to enjoy independence and quality of life.[11, 12]

Internationally, organizations such as the World Health Organization use the term **active ageing** to refer to the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age.[10]

Aging and the lifecourse

The lifecourse is the path or trajectory that an individual follows from birth to the end of life.[6] This trajectory can change or evolve at any life stage (childhood, adolescence, young adulthood, mid-adulthood and old age) and can vary from person to person depending on the factors interacting to influence health (biological, behavioural, physical and social).[6, 14] Both positive and negative factors evolve and interact within and across life stages, ultimately resulting in the positive and negative health outcomes that each individual experiences in his or her lifetime. It is during the earlier years that factors can influence health and have the greatest cumulative impact on health outcomes.[14, 15] For more information on the lifecourse approach and trajectories, refer to *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future*.[6]

Public health uses the lifecourse approach as a tool to understand the links between time, exposure to a factor or combination of factors, experiences and later health outcomes. The lifecourse approach can help identify and interpret trends in the health of populations and the links between life stages.[6, 14, 16, 17] It can also be used to develop appropriate interventions, programs and policies

Canada's Experience in Setting the Stage for Healthy Aging

across the lifecourse. The lifecourse approach ensures healthy aging is considered in the context of the entire lifespan, rather than merely as a late-life phenomenon.

Health trajectories are the pathways that individuals follow from a health perspective. These pathways evolve over time and the directions taken are dependent on and shaped by individuals actions, as well as by the circumstances and conditions that individuals experience throughout their lives.[14]

Factors that influence health and aging

Many broad factors directly and indirectly influence the health of individuals and communities. Age, sex and heredity are key factors that determine health. Further, individual behaviours can impact health. Although these behaviours are individual choices, they are also influenced by social and economic circumstances. Socio-economic factors called the 'social determinants of health', such as income, education, environment and social connectedness can also influence health.[18-21] References to the social determinants of health, collectively and individually, can be found throughout the report.

While these determinants influence health outcomes at every stage of life, the cumulative impact of socio-economic conditions on health outcomes is more apparent as people age. Generally, evidence shows that people with low socio-economic status (SES) have notably poorer health outcomes compared to those of higher SES. Also, the longer people live in stressed economic and social conditions, the greater the impact on their health outcomes.[22] These differences will be discussed further in Chapter 3.

Social determinants of health are socio-economic factors that cause, impact or influence health outcomes.[18] These are the circumstances in which people are born, live, work, play, interact and age.[19] At each stage of life, health is determined by complex interactions between social and economic factors, the physical environment and individual behaviours. Often these factors are influenced by wealth, status and resources that, in turn, also influence policies and choices leading to differences in health status experienced by individuals and populations.[19] These differences in health outcomes are referred to as 'health inequalities'.[20]

A brief history of Canada's experience in promoting healthy aging

Examining Canada's experience in setting the stage for healthy aging is a complex undertaking. On the one hand, we must consider all of the broad public health improvements for the population as a whole, as well as those specific to children, as these improvements have influenced health and have had the greatest cumulative impact on health outcomes with age.[6] On the other hand, Canada has also made considerable progress on improving seniors' health and well-being and on improving health outcomes later in life.

This section will offer a brief historical look at some of Canada's many successes and challenges in establishing a healthy aging population. The following examples illustrate how seniors' health and well-being have been influenced by the evolution of public health. Looking to the past provides a sense of the progress that has been made on seniors' health and the foundation from which future actions can be taken. This should not be considered a complete historical account of all public health advancements. For a more detailed history of public health in Canada, see *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2008: Addressing Health Inequalities* and *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009: Growing Up Well – Priorities for a Healthy Future.*[6, 20]

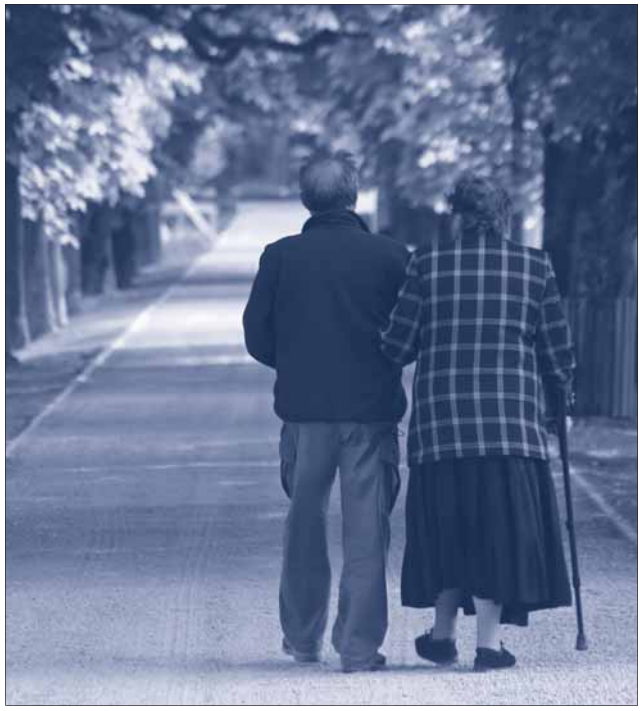
1900 to 1950

Before the 20th century, government policy and community interventions did not specifically focus on the health and safety of Canada's seniors but rather strived to improve health and well-being for the population as a whole. Efforts during this period were primarily aimed at combating the many infectious diseases that often affected large proportions of the population. By the early 1900s, waterborne diseases were, for the most part,

brought under control with the implementation of water treatment and sanitation standards.[23-25] In addition, immunizations – along with food and drug standards – significantly reduced the risk for diseases.[20, 26] The recognition of the relationship between social conditions such as education and employment, as well as health and safety, led to improvements in school attendance, living and working conditions, and public infrastructure.[27-29] These public health improvements played a large role in advancing the state of public health in Canada and subsequent generations have continued to garner the benefits of these advancements.

By the end of the First World War (1914-1918), social and economic conditions within the country had changed. War-time demand led to more industrial production and a larger urban labour force. Jobs traditionally performed by older adults were replaced with new factories and a younger workforce.[30] However, despite a prospering economy, the effects were not felt by all sectors of society. Canadian seniors could look forward to living longer, but many of those years were spent in lower standards of living and, in some cases, extreme poverty. Due to age and associated health conditions, senior men who had worked throughout their lives were generally unable to continue in the paid labour force. Senior women living in urban areas worked primarily in domestic settings as unpaid caregivers and homemakers. In rural settings, men and women also dealt with the demands of unpaid labour ranging from unmechanized farm work to housework.[30-32] As a result, seniors – particularly single or widowed women – were at greater risk for income insecurity and poverty.

Without income security, seniors had limited means of supporting themselves and their families as they aged. Survivor and disability pensions were created for war veterans and their families, but there was still a strong and growing need for assistance for seniors. Fuelled by public support for social reform to help combat poverty and provide assistance to low-income seniors, the Government of Canada appointed a special committee to study the need for a national pension plan, and in 1927, the *Old Age Pension Act* was passed. The *Act* set



out provisions for granting financial assistance to British subjects 70 years and older who had lived in Canada for a minimum of 20 years.[30]

By the 1930s, Canada was experiencing a state of economic depression. The economy had collapsed, resulting in mass unemployment that weakened social conditions such as housing and food security. As farmers went bankrupt and industries crashed, people lost their homes and livelihoods and it became apparent that many Canadians were struggling to meet their basic needs.[33] Despite the earlier introduction of the *Old Age Pension Act*, which was initiated to serve seniors in greatest need of financial assistance, eligibility was limited (e.g. Status Indians and immigrants could not apply) and its provisions did not apply to the majority of the aging population.[30] As a result, many seniors were still experiencing lower standards of living and, in some cases, extreme poverty.

Canada's Experience in Setting the Stage for Healthy Aging

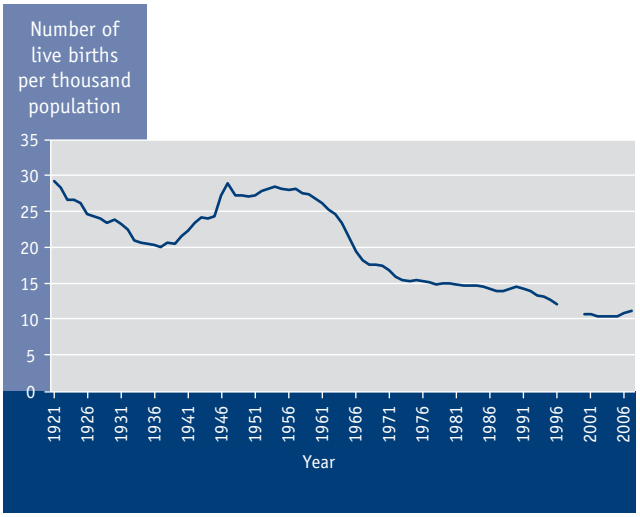
1950 to present

Following World War II, several significant public health developments emerged. For instance, the standard of living for most Canadians was on the rise as employment and income levels increased and education and housing standards improved, resulting in better living conditions and nutritional practices. The health of Canadians was even further enhanced with increased childhood immunization against infectious diseases and life-altering scientific discoveries such as insulin and penicillin, which led to treatments for diabetes and infection.[20] Along with improved economic and social conditions, the composition of the Canadian family was changing. More families were having more children and this resulted in a "baby boom" – a period of increased birth rates that started in the mid-1940s (see Figure 2.1).[34, 35]

The baby-boom lasted until the mid-1960s when it began to wind down due to a shift in social dynamics within the family and the community. During and after World War II, more women entered the workforce and birth control methods became more accessible and effective, making it possible to delay starting a family.[35, 41] Also, many people were moving from rural areas into urban areas in search of jobs and a better, more accessible education. Young adults began marrying later and delaying parenthood.[35, 41] As a result, Canada's birth rate began to decline.[35] The significance of the baby-boom period is most evident today, as the oldest members of this group of Canadians are just starting to reach seniors status and, over time, will represent the largest cohort of seniors in history. By 2038, it is projected that almost 25% of the population will be aged 65 years and older (see Figure 2.2).[42, 43]

Post-war, Canadians experienced unprecedented gains in real income, which primarily benefited younger Canadians who made up the majority of the workforce. Many Canadians nearing retirement had experienced limited opportunity to save for their retirement, due to having lived through years of economic hardship and war.[8] As a result, they were more likely to be food insecure and live in inadequate housing, which put their health and well-being at even greater risk. By this time, poverty among seniors had become a significant concern in Canada.[30, 33] Many of the social initiatives up until this time were directed at the overall population and not at seniors. In fact, across the country, within both the public and private domains, there was a lack of initiatives that benefited the aging population. In view of that, a number of federal programs and policies to support seniors and

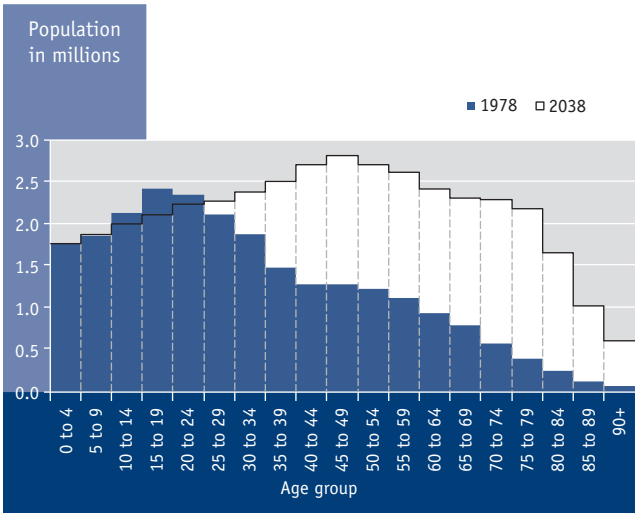
Figure 2.1 Crude birth rate in Canada, 1921 to 2007* [36-40]



* Data not available from 1997-1999.

Source: Statistics Canada.

Figure 2.2 Canadian population, 1978, 2038* [42, 43]



* Projected population.

Source: Statistics Canada.

improve their quality of life were introduced, including broad social investments such as:

- *Old Age Security* (OAS), which was Canada's first universal pension. Introduced in 1952, it aimed to financially assist retired Canadians, including Status Indians, who were experiencing a significantly lower standard of living than other age groups within the general population;[30]
- the *Canada Pension Plan* (CPP) and the *Quebec Pension Plan* (QPP), which were introduced in 1966 as employment-based pension plans that were portable from job to job. Both plans provided all employed Canadians with protection against loss of income as a result of retirement, disability and death;[44-46] and
- the *Guaranteed Income Supplement* (GIS), which was introduced in 1967, as a measure to further reduce poverty among seniors and assist those who needed to retire before they could benefit from the CPP.[30, 44]

These programs were initiated to provide working Canadians and their families with income for retirement, improve eligibility of financial assistance for seniors in greatest need and as measures to enhance quality of life.[8, 30] Until the mid-1960s, the age of eligibility for OAS was set at 70 years; however, it was gradually lowered to 65 years between 1966 and 1970.[8] Over time, Canada gradually moved away from clearly defined age-based retirement. Flexible retirement options were introduced in the CPP and some provinces passed labour and human rights legislation that protected against mandatory retirement (with the exception of specific occupations that have a set age limit).[8, 47] This meant that Canadians entering their 60s could consider a variety of employment and retirement options. Income benefit programs were introduced in many provinces beginning in the 1970s. For example, the Ontario Guaranteed Annual Income System (GAINS) and the Alberta Seniors Benefit Program both aimed to provide support to seniors and ensure a guaranteed minimum income in addition to federal benefits received under OAS, CPP and GIS.[48-50] The introduction of these income assistance programs, along with the establishment of workplace pensions, helped to reduce poverty among seniors. With these additional income benefits, standards of living improved and health and well-being were enhanced. Subsequent generations of retired Canadians and seniors have continued to benefit from these programs.[8, 51]

By the 1950s, the science of gerontology had received more attention, particularly as a means of raising awareness and promoting research and education in the area of seniors' health and well-being. In the following decades, organizations were created within Canada to promote the health of seniors through science-based research, education and advocacy. These included the Canadian Association on Gerontology (1973), the Canadian Geriatrics Society (1981), the Canadian Gerontological Nursing Association (1985) and the Canadian Academy of Geriatric Psychiatry (1991).[52-54]

Increased longevity among seniors due to public health improvements and social investments led to an aging population that was healthier, older and more numerous than in previous generations.[10, 55] Access to acute hospital services was guaranteed through the *Hospital Insurance and Diagnostic Services Act* (1957), while the *Medical Care Act* (1966) afforded access to insured medical services.[56] Additionally, medical advances in health technologies and pharmaceuticals improved the speed and accuracy of diagnosis, reduced pain, facilitated rehabilitation and survival, and improved the independence of individuals coping with chronic diseases and injuries.[57] These public health initiatives, together with immunizations, contributed to a decline in many infectious diseases.[26] Nonetheless, injuries and non-communicable diseases such as cardiovascular disease, cancer, arthritis and diabetes, were common causes of disability and death.[8, 10, 55, 58] Although risk factors had been identified for these diseases, early interventions to prevent and/or reduce risk were minimal.[8, 55]

Furthermore, there was increased demand for care and services for seniors due to multiple factors, including shifting cultural values and family dynamics, and better, more accessible employment and education opportunities that led to increased numbers of working families moving to urban areas or greater distances away from their elders.[10] As a result, many programs have been launched in recent decades to help seniors remain independent as they age by offering homemaking services such as meal planning and preparation, light housecleaning and laundry services. Long-standing organizations such

Canada's Experience in Setting the Stage for Healthy Aging

as the Victorian Order of Nurses have expanded their services to include home care, personal support and community services.[59] And a number of provincial home care programs have also been established across the country. In addition, health services for Canadian veterans were improved with the introduction of the Veterans Independence Program (VIP) in 1981. A national home care program, VIP is provided by Veterans Affairs Canada to help clients remain healthy and independent in their own homes or communities.[60]

Supporting healthy aging in the home and community also required better standards of care and safety.[10] Most homes were not designed to meet the changing needs of seniors and many seniors could not afford or physically carry out the renovations needed to make their homes safe and functional. Changes to building codes dating back to the early 1940s, such as the *National Building Code of Canada*, played an important role in setting standards to promote health, safety, accessibility and injury prevention for seniors and have been updated in recent decades to reflect current risks and safety requirements.[61] Home improvement programs, such as the Residential Rehabilitation Assistance Program for Persons with Disabilities and the Home Adaptations for Seniors Independence program, were launched by the Canada Mortgage and Housing Corporation (CMHC) to assist low-income seniors and households with home renovations, such as accessibility modifications and home adaptations.[62, 63] Additionally, recognition of the growing need for supportive housing arrangements for seniors led to an increase in the development of private and public retirement homes and long-term care facilities.

A work in progress

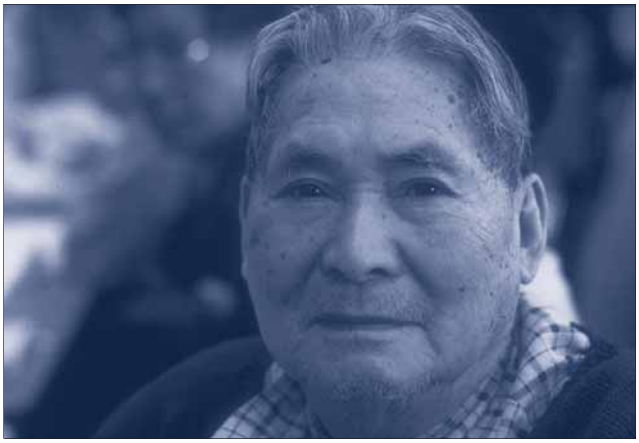
In the 21st century, attention to issues concerning seniors has continued to gain momentum. Governmental and non-governmental organizations have been formed in Canada to encourage and promote healthy aging and to advocate for seniors' issues in areas such as falls and related injuries, mental health, abuse and neglect, social connectedness, healthy living, and care and services. In addition, the National Advisory Council on Aging (NACA) (1980) was established to assist and advise the Federal Minister of Health on issues related to aging and quality of life for seniors.[51, 57, 64] In 2007, the National Seniors Council was established to advise the Government of Canada on all matters related to the health and well-being of seniors.[65] Internationally, there has also been greater awareness of the issues facing seniors (see Textbox 2.1 *International action on aging*).

Textbox 2.1 International action on aging

The latter part of the 20th century was a period of increased international awareness about issues facing seniors. By 1982, the United Nations (UN) had become a key player in promoting healthy aging and protecting the rights of seniors around the world. That same year, the United Nations First World Assembly on Ageing was held in Vienna and set the tone for many initiatives for seniors that followed. *The Vienna International Plan of Action on Ageing* was the first international effort of its kind, and established a series of recommendations, standards and strategies to strengthen research, data collection, analysis, training and education. The plan focused on several key areas: health and nutrition, protection of senior consumers, housing and environment, family, social welfare, income security, and employment and education.[66]

In 1991, the *United Nations Principles of Older Persons* was established to ensure that priority attention would be given to the health and well-being of older persons. It outlined five areas of priority: independence, participation, care, self-fulfilment and dignity.[66, 67] By the close of the century, these issues had become significant enough to prompt the declaration of 1999 as the International Year of Older Persons.[68] In 2002, the UN held the Second World Assembly on Ageing in Madrid to reflect on the opportunities and challenges of population aging and to re-evaluate the recommendations of the *Vienna Action Plan*.[66] Canada was a signatory to the *Madrid Action Plan* and has committed to upholding its spirit and intent through various policies and programs to help promote and protect the health and well-being of seniors in Canada.[69]

A large part of this increased momentum and support for seniors over the last few decades can be attributed to the growing realization that the demographics of the population are changing. Canada, like many other countries around the world, is experiencing significant growth in its population aged 65 years and over.[12, 51] Furthermore, Canada's seniors are not a homogenous population and issues related to seniors' overall health and well-being may vary depending on historical social and economic conditions, place of residence (urban, rural or northern areas), gender, and ethnocultural background.[51] For a brief look at how these factors have impacted Aboriginal health, see Textbox 2.2 Historical influences on Aboriginal peoples health.



Textbox 2.2 Historical influences on Aboriginal peoples health

Looking back over Canada's history, it is apparent that social, economic and environmental conditions have had a profound impact on the health of Aboriginal peoples in Canada. Broad historical events, such as colonization, treaty negotiations, loss of land, destruction of the environment and the legacy of the Indian Residential School system, are just some of the factors that have had a significant impact on the lives, traditions and health of Aboriginal peoples.[70-72]

Over time, life expectancy for Aboriginal peoples has increased. However, it still remains low when compared to the non-Aboriginal population.[73] First Nations, Inuit and Métis often experience higher rates of disease and injury compared to the Canadian population as a whole.[74] Disparities in education, employment, income, housing, nutrition, water, sanitation and access to services exist in First Nations, Inuit and Métis communities. Furthermore, the individual and cumulative effects of these health disparities have affected the health of Aboriginal peoples throughout their lives and across generations.[71, 72, 75]

Many aging members of Aboriginal communities experienced the struggles of their people's history, including the legacy of the Indian Residential School system. In spite of this, many contribute within their communities to strengthening and preserving their culture and language, and endeavour to improve social and health conditions for Aboriginal peoples. Aboriginal Elders are considered the cornerstone of their communities, responsible for passing on and carrying forward their wisdom, historical and cultural knowledge and language and for playing an integral role in the health and well-being of their families, communities and nations.[72, 73, 76]

Addressing the health needs of Aboriginal seniors is an area of shared responsibility between federal, provincial, territorial and Aboriginal partners. National Aboriginal organizations, such as the National Aboriginal Health Organization (NAHO), have been working closely within Aboriginal communities to influence and advance health and well-being of Aboriginal peoples. NAHO's work is strengthened by its three evidence-based research centres: the First Nations Centre, the Inuit Tuttarvingat and the Métis Centre, which focus on the distinct needs of their respective populations and promote culturally relevant approaches to health care.[77] Additionally, governments are working to improve social and economic well-being and to reduce disparities in health, housing and education. Further, initiatives have been established to develop healthier, more sustainable communities and to build effective long-term partnerships with Aboriginal peoples.[78, 79] These interventions to influence and advance the health and well-being of Aboriginal peoples are investments in healthy aging.[7, 8]

CHAPTER 2

Canada's Experience in Setting the Stage for Healthy Aging

While Canada has made great strides in implementing public health initiatives to maintain and improve the health of Canadians as they age, considerable challenges remain. The continued prevalence of unhealthy lifestyles and chronic diseases threaten the physical and mental health of the population. The significance of age-related chronic diseases and their prevention and management will be an ongoing concern – not only for today's seniors but for those in future generations.[12]

There are real environmental, systemic and social barriers to adopting healthy behaviours. One of the challenges in moving forward will be for Canadians to find ways to live healthier lives by staying socially connected, increasing their levels of physical activity, eating in a healthy balanced way and taking steps to minimize their risk of injury.[12] Additionally, the health and safety of seniors has been, and will likely continue to be, jeopardized by extreme weather events, infectious disease outbreaks, water contamination and seasonal influenza. This points to the need for emergency preparedness measures that integrate senior-specific considerations to reduce the risk of injury and death.[80, 81] Canada also requires age-friendly environments and opportunities for seniors to be socially connected and make healthy choices that will enhance their safety, independence and quality of life.[12, 82, 83]

Looking ahead, Canada will need to consider ways to integrate healthy aging into the lifecourse experience. Healthy aging is not simply about seniors; it is an issue that affects all age groups and generations. In order to ensure Canadians are healthy for as long as possible, all Canadians must have opportunities at all stages of their life to have, maintain and enhance good physical and mental health.

Summary

Canada has made progress in improving the health outcomes of its citizens. Today, most Canadians are living longer and living many of their years in better health. Many initiatives have been put in place and evolving social and economic conditions have resulted in adaptation and change. Regardless of these successes, challenges remain and will continue to emerge. Chapter 3 will explore the current health status of Canada's senior population from four perspectives – physical health, mental health, economic well-being and social well-being – including factors influencing their health.

The Health and Well-being of Canadian Seniors

CHAPTER 3

This chapter provides an overview of the current health and well-being of the Canadian population aged 65 years and older, including patterns of ill health and disability within this age group. It focuses on their physical and mental health as well as economic and social well-being.

The health status of individuals between 65 and 79 years is often different than that of those aged 80 years and older. Similarly, the health status of senior men often differs from that of senior women. For this reason, when appropriate and available, data in this report will be presented accordingly.

Demographics of the senior population

According to the 2006 Census, of the 31.6 million people who live in Canada, 4.3 million (14%) are 65 years and older (see Table 3.1).[84] Within Canada's senior population, 73% are between the ages of 65 and 79 years and more than one-quarter (27%) are 80 years and older.[84] Immigrants account for approximately 28% of the senior Canadian population, while Aboriginal peoples account for 1%.[84-86]

Over the past 30 years, the proportion of the population made up of those aged 65 years and older has increased from 9% to 14%.[42] This trend is also evident in other developed countries (see Figure 3.1).[87-89] For example, between 1960 and 2007, the population of seniors in Japan more than tripled, from 6% to 22%.[87] In Sweden, it increased from 12% to 17% and in the United States it rose from 9% to 13%.[87] Given continuing increases in life expectancy and remaining years of expected life at age 65, seniors will become an even larger proportion of the population over the next 40 years.[43] For example, while today's seniors represent 14% of the total population, it is estimated they will make up more than one-quarter (27%) of the population by the year 2050.[42, 43, 88, 89]

Table 3.1 Canada's senior population

Population (thousand people aged 65+ years)		Year
Population	4,335.3	2006
Aboriginal	56.5	2006
First Nations	32.0	2006
Métis	20.0	2006
Inuit	1.8	2006
Immigrant	1,215.3	2006
Recent (<= 10 years)	78.3	2006
Long-term (>10 years)	1,137.0	2006
Living in private households	4,011.9	2006
Living in health care and related facilities	301.3	2006
Urban population	3,208.6	2006

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Source: Statistics Canada.

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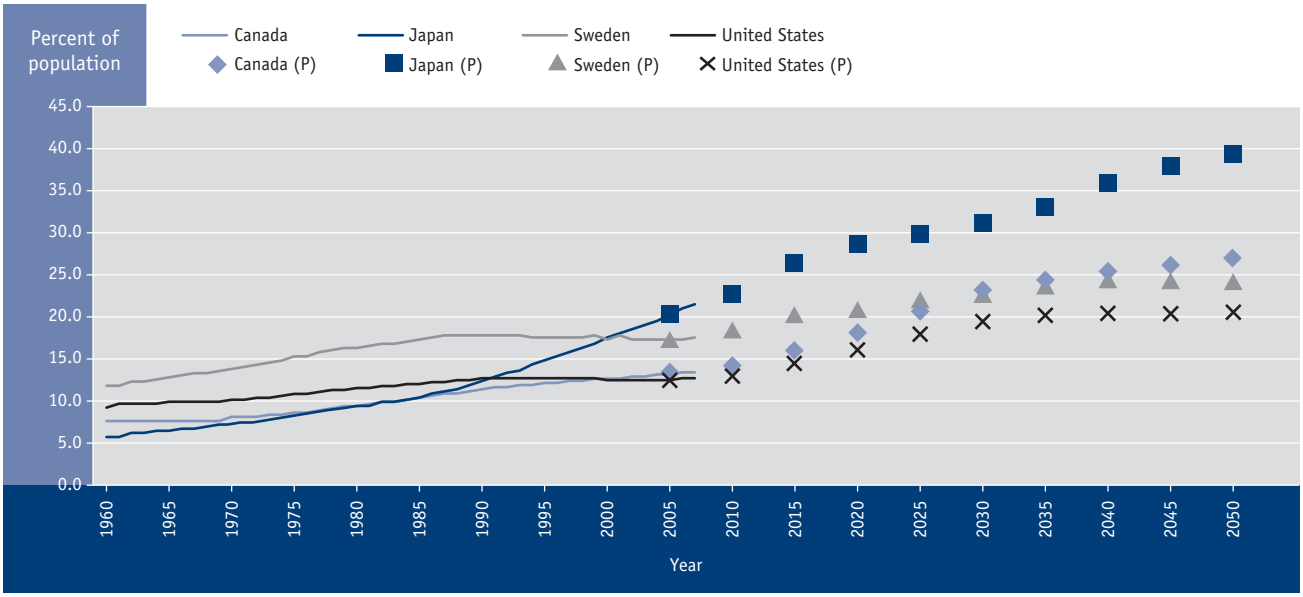
Figure 3.1 Proportion of population, aged 65 years and older, select countries, 1960 to 2007, projected 2010 to 2050[87-89]



(P) Future population projections.

Sources: Organisation for Economic Co-operation and Development (OECD) Health Data 2009 and United Nations.

In 2006, seniors accounted for 5% of the overall Aboriginal population and this number is projected to grow to nearly 7% by 2017.[73, 86] During the same period, the senior Métis population is expected to see the most growth, increasing from 5% to 8%, First Nations seniors are expected to increase from 5% to 6% and the senior Inuit population is expected to remain constant around 4%.[73, 86] Between 1996 and 2006, the immigrant seniors population increased from 18% to 19% of the total immigrant population.[90-93] The proportion of first- and second-generation senior immigrants within the immigrant population is expected to decrease from 51% in 2006 to 41% in 2031.[94]

The majority of seniors (80%) live in private households in urban settings across Canada, which is similar to the rest of the Canadian population (82%).[91, 95] Although more seniors are living in urban areas versus rural areas, they represent a larger proportion of the Canadian rural population than in the past.[90, 91, 96] This is due to the fact that an increasing number of younger rural residents have moved to urban areas, leaving senior residents to make up more of the overall rural population.[97] Most seniors (92%) also live in private homes.[84, 95] The remaining 8% reside elsewhere, including long-term care facilities, assisted living facilities and retirement residences.[84, 91, 95, 98, 99]

Physical health

Although seniors are often impacted by multiple physical health issues, such as chronic conditions and reduced mobility and functioning, many feel healthy and are willing to take action to improve their health. According to the *2009 Canadian Community Health Survey* (CCHS) – *Healthy Aging*, 44% of seniors perceived their health to be excellent or very good.[100] In the same year, 37% of seniors reported they had taken some action to improve their health, such as increasing their level of physical activity (71%), losing weight (21%) or changing their eating habits (13%).[100]

Table 3.2 Health of Canada's seniors

		Year
Physical health		
Life expectancy (remaining years of expected life at age 65)[1]	19.8	2005-2007
Male	18.1	2005-2007
Female	21.3	2005-2007
Health-adjusted life expectancy (remaining years of expected healthy life at age 65)[1]	13.6	2001
Male	12.7	2001
Female	14.4	2001
Mortality[2] (deaths per 100,000 population aged 65+ years per year)		
Circulatory diseases	1,381.2	2006
Cancers	1,126.9	2006
Respiratory diseases	397.9	2006
Ill health and disease (percent of population age 65+ years)		
Excellent or very good self-rated health*[1]	43.6	2009
Excellent or very good functional health*[1]	62.0	2005
High blood pressure*[1]	56.1	2009
Heart disease*[1]	22.6	2009
Arthritis*[1]	43.7	2009
Diabetes[2]	21.3	2006-2007
Often has difficulties with activities*[1]	25.3	2008
Cancer incidence (new cases per year per 100,000 population aged 65+ years)[1]	2,044.2	2006
Mental health (percent of the population aged 65+ years)		
Satisfied or very satisfied with life*[1]	96.5	2009
Excellent or very good self-rated mental health*[1]	70.4	2009
Alzheimer's disease and other dementias (estimated)[3]	8.9	2008
Economic well-being[1] (percent of population aged 65+ years)		
Persons living in low-income (after-tax)	5.8	2008
Social well-being[1] (percent of the population aged 65+ years)		
Very or somewhat strong sense of community belonging*	70.2	2009
Living alone	28.1	2006
Volunteering*	35.7	2007
Provider of unpaid care*	24.4	2007
Paid employment rate	10.1	2009
Regular family physician*	95.7	2009
Contact with dental professional in the past 12 months*	55.9	2009

* Denotes self-reported data

Note: More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Sources: (1) Statistics Canada, (2) Public Health Agency of Canada and (3) Alzheimer Society of Canada.

Data presented throughout this chapter often comes from health survey data. Despite the inherent limitations of this type of data, such as the subjectivity of individual responses and the exclusion of those living in institutions and on reserves, self-reported data can provide useful information otherwise not available. Unless otherwise stated, data presented from these sources reflect only those seniors who live in the community.

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Life expectancy

The life expectancy of Canada's seniors has been steadily increasing over time (see Figure 3.2).[101, 102] In 2006, seniors who turned 65 could expect to live nearly 20 additional years (18 years for men and 21 years for women).[101, 102] Canadian women have historically experienced greater longevity, but the gap between men and women has been closing.[101-103] Between 1980 and 2006, the gap in remaining life expectancy at age 65 between Canadian men and women decreased from five years to three years.[101, 102]

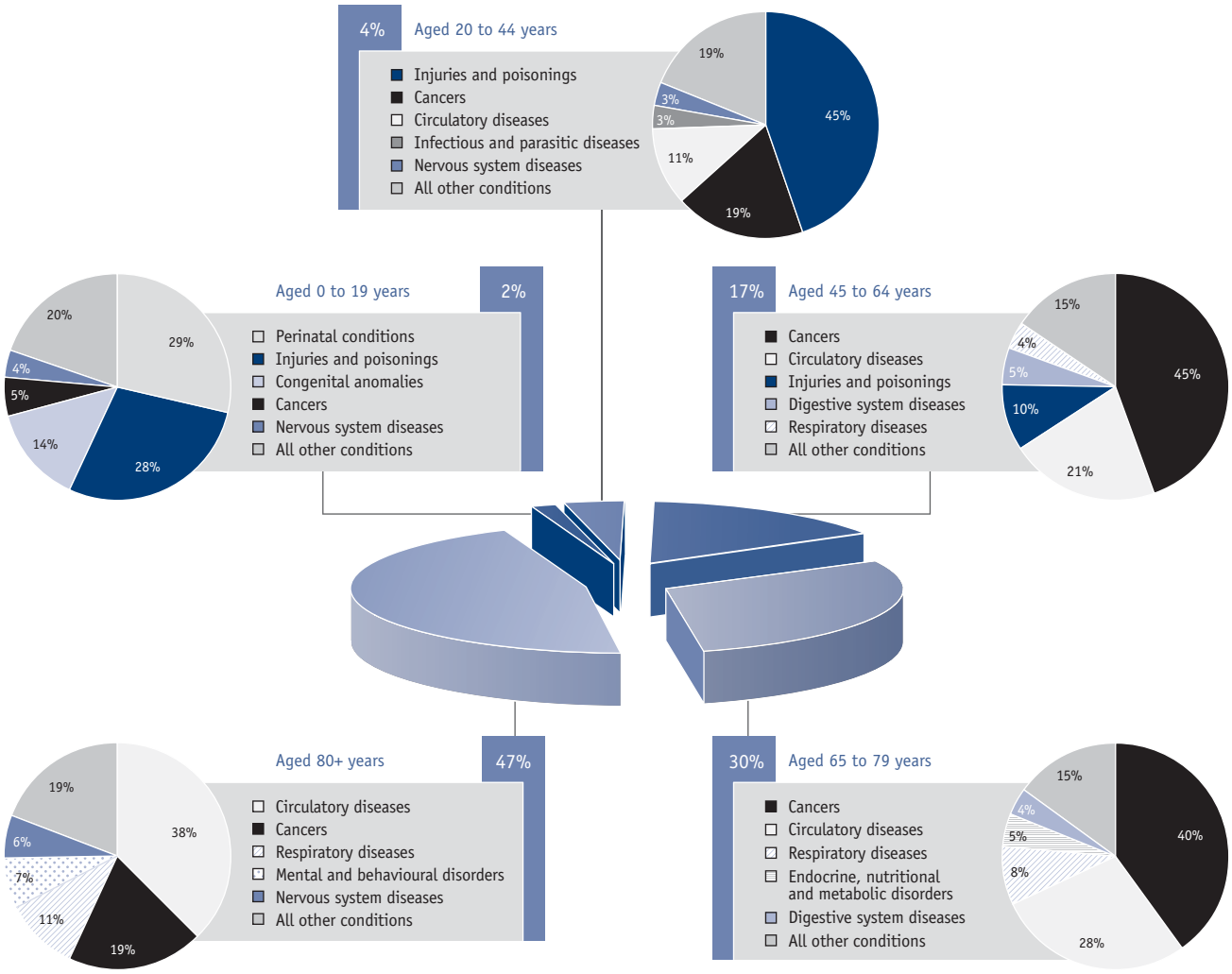
However, not all population groups in Canada have a similar life expectancy. Despite a growth in the number of senior Aboriginal persons, life expectancy at birth for this group was 71 years for men and 77 years for women in 2001, which lags behind the Canadian average of 77 years for men and 82 years for women during the same period.[104, 105]

Internationally, other developed countries are also experiencing increases in remaining life expectancy at the age of 65. Some of these countries, such as Sweden and the United States, have also seen the gap in remaining life expectancy at the age of 65 decrease between men and women, while Japan has seen the gap increase.[101, 102]

Figure 3.2 Remaining life expectancy at age 65 by sex, select OECD countries, 1980 to 2008[101, 102]

Source: OECD Health Data 2009.

Figure 3.3 Mortality by major causes and age groups, Canada, 2006[106-125]



Source: Statistics Canada.

Mortality

The main causes of death among Canadians who die before age 45 tend to be quite different than those for seniors, with a large proportion of all deaths for this younger age group being due to injuries and poisonings. However, the main causes of death for seniors aged 65 years and older do not differ greatly from those for persons aged 45 to 64 years, although the proportion of all deaths within each age group attributable to those causes varies (see Figure 3.3). In 2006, the three main causes of death for all seniors were circulatory diseases (including cerebrovascular and ischemic heart disease), cancers (including cancers of the lung, colon, breast and prostate) and respiratory diseases (chronic obstructive pulmonary disease, influenza and pneumonia).[106-125]

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The most common causes of death due to circulatory diseases in 2006 were ischemic heart disease (IHD) and cerebrovascular disease.[114] Deaths during that year from cerebrovascular disease were more common among women (309 deaths per 100,000 women compared to 266 deaths per 100,000 men), while deaths related to IHD were more common in men (836 deaths per 100,000 men compared to 635 deaths per 100,000 women).[42, 114]

Cancer of the bronchus and lung, as well as of the colon, were the most common causes of death due to cancers among seniors in Canada in 2006.[107] Deaths during that year related to each of these diseases were more common in men than in women (bronchus and lung cancer: 393 deaths per 100,000 men compared to 229 deaths per 100,000 women; colon cancer: 113 deaths per 100,000 men compared to 86 deaths per 100,000 women).[42, 107]

Chronic obstructive pulmonary disease, along with influenza and pneumonia, were the most common causes of death due to respiratory diseases among Canadian seniors in 2006.[115] Deaths during that year related to influenza and pneumonia were equally common among both senior men and women (107 deaths per 100,000 men compared to 108 deaths per 100,000 women), while deaths related to chronic obstructive pulmonary disease were more common in men (225 deaths per 100,000 men compared to 156 deaths per 100,000 women).[42, 115]

While the three major causes of death are the same for seniors aged 65 to 79 years and those 80 years and older, the less frequent causes of death vary more widely between these age groups. After deaths from circulatory diseases, cancers and respiratory diseases, those aged 65 to 79 die most often due to endocrine, nutritional and metabolic disorders (including diabetes and thyroid disorders), and digestive diseases (including cirrhosis of the liver and hernias). Seniors aged 80 years and older die due to mental and behavioural disorders (including dementia and schizophrenia) and nervous system diseases (including Alzheimer's disease and Parkinson's disease).[106-125]

Deaths due to injuries, both intentional and unintentional, were ranked eighth in overall causes of death for seniors in 2006.[106-125] Half of all deaths among seniors from injuries were caused by falls (41%) or motor vehicle crashes (10%), including those where a senior was a driver, passenger or pedestrian.[42, 124]

Chronic conditions and infectious disease

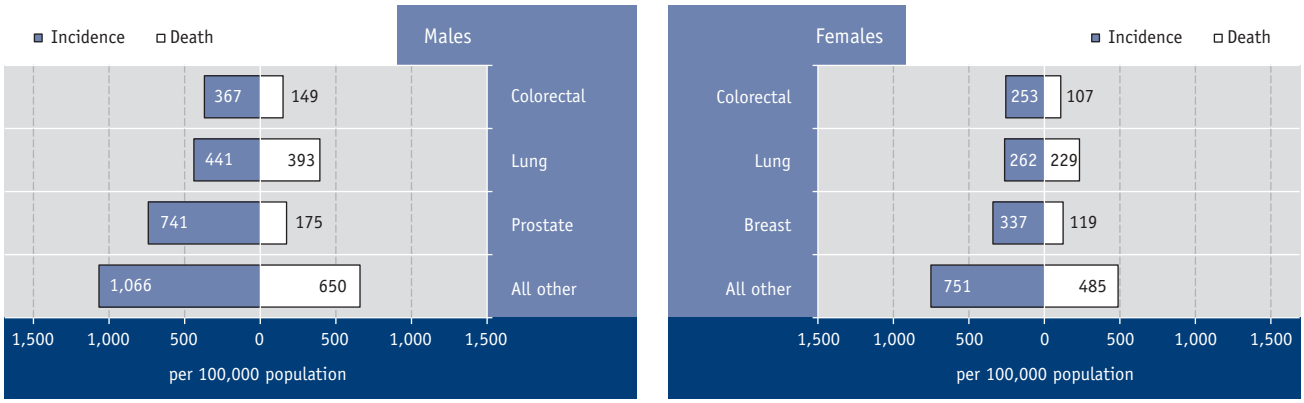
In 2009, 89% of Canadian seniors had at least one chronic condition. Arthritis and rheumatism was identified as one of the more common chronic conditions, affecting 44% of seniors in 2009.[100] Similarly, 53% of Aboriginal seniors not living on a reserve in 2001 and 46% of First Nations seniors aged 60 years and over living on reserve in 2002/03 reported these conditions.[73, 74] Osteoarthritis is the most common type of arthritis seen in seniors aged 75 years and older, affecting an estimated 85% of that population.[126]

Osteoporosis, characterized by low bone mass and thinned and weakened bones over time, was estimated to have affected 29% of women and 6% of men age 65 and older in 2009.[100] The most common injuries associated with osteoporosis are fractures of the wrist, spine and hip.[127, 128] It is estimated that osteoporosis is responsible for approximately 70% of hip fractures in those 45 years and older.[129]

Many seniors live with one or more cardiovascular diseases. In 2009, nearly one-quarter (23%) of seniors indicated they had some form of heart disease and just over 4% stated they suffered from the effects of stroke.[100] High blood pressure, a key risk factor for cardiovascular diseases, was reported by 56% of senior Canadians.[100] Among on-reserve First Nations populations, 20% of adults aged 60 years and older reported living with some type of heart disease in 2002/03.[74]

In 2006, approximately 39% of all new cases (61,000) of cancer occurred in Canadians 65 to 79 years and approximately 17% of all new cases (27,000) occurred in Canadians 80 years and older.[130] Among new cases, the most common for senior men are prostate (28%), lung (17%) and colon cancer (14%); for senior women they are breast (21%), lung (16%) and colon cancer (16%) (see Figure 3.4).[130]

Figure 3.4 Incidence and death rate by selected cancers and sex, Canadian population aged 65 years and older, 2006[42, 107, 130]



Source: Statistics Canada.

In 2006/07, 21% of the senior Canadian population had diabetes.[131] Some studies have suggested that as many as one-third of seniors with diabetes have not been diagnosed.[132, 133] In 2002/03, the *First Nations Regional Longitudinal Health Survey* estimated that 35% of First Nations seniors living on a reserve had diabetes.[74] Type 2 diabetes can result in blindness, lower limb amputation, heart disease, stroke and kidney failure.[134]

Chronic conditions affecting vision and hearing are also common among seniors. In 2009, one-fifth (21%) of Canadians 65 to 79 years and nearly one-third (32%) of Canadians 80 years and older reported having been diagnosed with cataracts at some point, although most are able to undergo simple corrective surgery.[100] Glaucoma is not as prevalent, but it affects 6% of seniors aged 65 to 79 years and 13% of those aged 80 years and older.[100] Age-related macular degeneration (AMD), a degenerative disease leading to blindness, is estimated to affect 19% of Canadian seniors aged 65 to 74 years and 37% of Canadian seniors aged 75 years and older.[135] Hearing limitations, including being deaf, hard of hearing or having some hearing loss, are more common among seniors compared to younger Canadians.[136] According to the 2006 *Participation and Activity Limitation Survey*, 12% of seniors aged 65 to 74 years and 26% of those aged 75 years and older indicated having some form of hearing limitation.[136]

While the chronic conditions mentioned here are some of the more prevalent illnesses experienced by seniors, it is important to note that many seniors are affected by a combination of chronic conditions. In 2009, 25% of Canadian seniors aged 65 to 79 years and 37% of those aged 80 years and older reported having four or more of a wide-ranging list of chronic conditions (see Figure 3.5).[100]

Chronic conditions, as well as vulnerabilities of the immune system and some medications, can make seniors more susceptible to infectious diseases such as seasonal influenza, West Nile virus and health care-associated infections (HAI).[137-139] In 2008, 1,373 health care-associated methicillin-resistant *Staphylococcus aureus* (MRSA) infections were reported, nearly half (42%) of which were in patients aged 65 years and over.[140] During the same period, cases of vancomycin-resistant *enterococcus* (VRE) HAI and *Clostridium difficile* infection (CDI or *C. difficile*) were also more common in patients 65 years of age and over (50% and 65% respectively).[140] Based on hospitalized data from 2008/2009, seniors were also disproportionately affected by influenza infections (36%).[140] In February 2009, a point prevalence survey conducted in 49 hospitals across Canada demonstrated that 13% of hospitalized patients 65 years of age and older had one or more HAI, including either urinary tract infection (6%), pneumonia (3%), surgical site infection (2%), CDI (2%), blood stream infection (1%) or viral respiratory infection (1%).[140]

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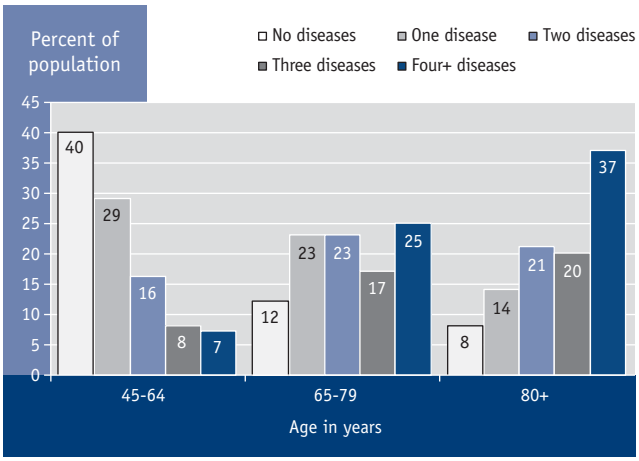
Figure 3.5 Proportion of population with one or more chronic diseases*, by selected age groups, Canada, 2009[100]



* Diseases include angina, asthma, arthritis or rheumatism, osteoporosis, high blood pressure, bronchitis, emphysema, chronic obstructive pulmonary disease, diabetes, heart disease, cancer, effects of a stroke, Crohn's disease, colitis, Alzheimer's disease, Parkinson's disease, cataracts, glaucoma, thyroid condition, mood disorder and anxiety disorder.

Source: Statistics Canada.

Mobility and functional health

Generally, Canadian seniors report themselves to be in good functional health (based on levels of vision, hearing, speech, mobility, dexterity, feelings, cognition and pain).[141] In 2005, 62% of seniors (65% of men and 59% of women) were considered to have at least very good functional health.[141] Canadians aged 65 to 74 years were more likely to have levels of very good or perfect functional health (71%) than those aged 75 years and older (50%).[141]

Despite these positive self-reports, some seniors do experience limitations as a result of long-term physical conditions caused by injury, disease and aging. One-quarter of Canadian seniors and 70% of Aboriginal seniors not living on a reserve reported they often have difficulty with one or more activities including hearing, seeing, communicating, walking, climbing stairs, bending, learning or other similar activities.[73, 142] Furthermore, activities of daily living (ADL) can be impaired. In all age groups, women were more likely than men to report requiring assistance with ADL such as meal preparation, housework, heavy household chores and personal care.[143]

It is important to note that many issues of functional health that are common among seniors, such as age-related changes in vision, reaction time, power, coordination and the speed of cognitive processing, can have an effect on driving ability. Seniors who experience such limitations may be at an increased risk of motor vehicle collisions, depending on the extent of the decrease in function.[144, 145]

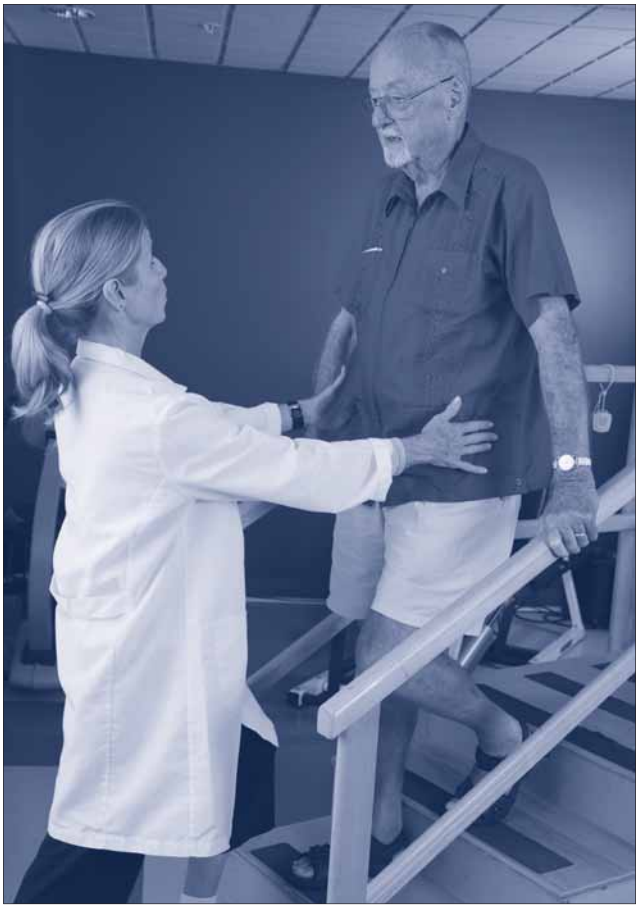
Falls and related injuries

The most common cause of injuries among seniors in Canada is falls. It is estimated that one in three seniors is likely to fall at least once each year.[146, 147] In 2006, this translated into approximately 1.4 million Canadian seniors.[84, 146, 147]

Various biological, medical, behavioural, environmental and socio-economic risk factors can contribute, either on their own or in complex interactions, to falls by seniors.[148] Aspects of physical health, such as chronic and acute illnesses, represent one such risk factor.[148] This may include visual or hearing impairment, lung disease, cardiovascular disease, arthritis, Parkinson's disease, stroke and disorders of blood pressure.[148-150] Physical limitations – such as a physical disability, muscle weakness, reduced physical fitness (particularly in the lower body), difficulty with gait and balance, and disorders affecting the legs and feet – can also increase the risk of falling.[148-151]

As people age, certain situations or behaviours can increase the likelihood of falling due to mobility or balance issues. These can include climbing a ladder, wearing loose-fitting clothing or shoes, or carrying heavy or awkward objects.[149-151] Additionally, many illnesses and conditions are treated with medications that can result in adverse reactions, either on their own or in combination with other medications, that can also increase the risk of falls.[148-151]

Seniors suffering from cognitive impairment due to depression, anxiety or dementia may also be at an increased risk of falling.[148, 149] Alcohol consumption, regardless of quantity and particularly in connection with other medical conditions, may also contribute to falls.[149]



Seniors who are housebound or living alone are at greater risk for falls.[150, 151] As well, those who lack social networks may be more likely to undertake higher-risk activities that can increase their risk of falls.[150, 152]

It is estimated that more than 180,000 Canadians 65 years and older suffered a fall in 2002/03 that caused injury.[148] More than two-thirds (68%) of those who fell and sustained injury were women.[148] Most of the injuries (37%) sustained from falls were to the hip, thigh, knee, lower leg, ankle or foot.[148] In fact, 95% of all hip fractures in this age group were the result of a fall.[153, 154] The most common cause of injurious falls was slipping, tripping or stumbling on a surface (44%), followed by falling on stairs (26%), and stumbling on ice or snow (20%).[148]

In 2008/09, more than 50,000 Canadian seniors were hospitalized due to a fall.[153] The most common injuries due to falls were hip (38%) and other fractures (39%).[153] These injuries resulted in an average length of stay in the hospital of 15 days – a period 70% longer than the length of stay for any other cause of hospitalization for seniors.[153]

Also during 2008/09, more than half (51%) of falls among seniors resulting in hospitalization occurred at home and approximately 18% occurred in residential institutions.[153] It is likely that seniors living in long-term care facilities, because of their frailty and disabilities, are more prone to falls and to suffer an injury due to the fall than those living in the community. Approximately half of long-term care facility residents fall each year, with one in ten falls resulting in a serious injury.[148]

Most seniors who suffer falls eventually heal from their injuries but many never fully recover.[155-158] For all falls among seniors, half result in minor injuries while an estimated 5% to 25% result in serious injuries including traumatic brain injuries and bone fractures.[148, 159, 160] Up to 40% of all fall-related hospitalizations among seniors involve hip fractures, which can have very serious consequences including a decline in overall quality of life, institutionalization and a decrease in life expectancy.[148, 151, 161] Among seniors who sustain a broken hip resulting from a fall, 20% die within a year of their fracture due to post-operative complications and/or pre-existing conditions such as cardiovascular or neurological diseases.[148, 162, 163] Other seniors recovering from hip fracture may develop post-fall syndrome, which includes dependence on others for daily activities, as well as a loss of autonomy, confusion, immobilization, fear of falling and depression.[146]

Residual effects of injuries sustained by seniors can leave them with chronic pain, reduced functional abilities and curtailment of activities.[155-158] Even if no injury occurs, the psychological impacts of falling can result in a loss of confidence and restriction of activities.[148, 164] Withdrawal from social activities can lead to isolation, making seniors vulnerable to loneliness and depression.[148] Further, fear of falling often results in dependence and reduced mobility, both of which can increase the risk of future falls.[148, 149, 151]

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Underweight and obesity

As in other age groups, being obese contributes to increased risk of poor health outcomes in seniors, including type 2 diabetes, hypertension and heart disease.[166-168]

Body mass index (BMI) is a common measure used to determine healthy and unhealthy weights. While BMI has been seen as an adequate measure for a portion of the population, standard BMI categories may not accurately reflect the state of overweight and obesity in seniors due to changing body composition.[6, 166] However, BMI is still the most commonly used measure for seniors given that there is no agreement on a better alternative.[6, 166]

Using the standard classifications and BMI calculated from respondents' measured heights and weights, the percentage of seniors considered to be obese has increased from 22% in 1978/79 to 29% in 2008.[169, 170] In total, 28% of senior men and 31% of senior women were obese, which is greater than the proportions for all Canadians aged 18 years and older who were considered to be obese (26% of men and 24% of women).[170]

The **body mass index** (BMI) is a ratio of weight-to-height calculated as BMI = weight (kg)/height (m^2).[165] There are six categories of BMI ranges in the weight classification system, each of which has a predetermined level of associated health risk:[165]

Classification	BMI Category (kg/m^2)	Level of Health Risk
Underweight	< 18.5	Increased risk
Normal weight	18.5-24.9	Least risk
Overweight	25.0-29.9	Increased risk
Obese	≥ 30.0	
Obese Class I	30.0-34.9	High risk
Obese Class II	35.0-39.9	Very high risk
Obese Class III	≥ 40.0	Extremely high risk

Although the risks associated with being overweight are known for those under the age of 65, it is thought that there may be a protective effect associated with being slightly overweight for seniors. For example, overweight seniors may be more likely to survive acute illnesses, handle stress better and recover more quickly from traumas as a result of excess nutritional reserves.[171] In fact, being underweight may be a more important predictor of poor health than being overweight for those aged 65 years and older.[165, 172, 173] However, in determining weight classification research suggests the standard BMI underweight cut-off of less than 18.5 may be inappropriate for seniors. This is because they may experience the increased health risks associated with being underweight, such as malnutrition, osteoporosis and mortality, at a higher BMI within the lower end of the standard "normal" BMI range.[165, 171-173] Using an adjusted, higher, underweight BMI cut-off in the low 20s – a point thought to be more appropriate for this age group – 17% of seniors are estimated to be underweight.[165, 172-174]

Healthy behaviours

Many aspects of seniors' daily living are important factors in maintaining and improving their health. In particular, certain individual behaviours can significantly influence health and well-being for older Canadians such as physical activity, healthy eating and nutrition, smoking, alcohol and other substance use, and use of medications.

Physical activity

Physical activity plays an important role in preventing illness and dependence and enhancing mental health. However, as seen among many other age groups in Canada, most seniors are physically inactive, with activity levels tending to decrease with age.[7] In 2008, based on self-reported frequency, duration and intensity of participation in leisure-time physical activity, the majority of Canadian seniors (57%) were considered to be physically inactive.[175] Overall, 50% of senior men and 64% of senior women were inactive.[175] Seniors who have low-income or education levels, disabilities, chronic conditions, pain, lack of energy or motivation, or who have a fear of injury are less likely to be physically active.[7, 176] Seniors living in institutions, those who are isolated and those who have caregiving responsibilities may also be less physically active. Among the external barriers seniors face that can prevent or limit physical activity are cost, lack of transportation, adverse weather, and a lack of safe, accessible and affordable outdoor and indoor community space and recreational activities.[176, 177]

The benefits of physical activity on the health and well-being of seniors, including a reduced risk of premature death, are well documented.[176, 178] Even physical activity that is not initiated until later in life, if it is maintained, still results in significant health benefits.[176] Regular physical activity is known to have a positive influence on functional capacity, mental health, fitness and overall well-being.[176, 179] Physical activity can also aid in the prevention or management of chronic conditions such as heart disease, high blood pressure, osteoporosis, stroke, obesity, and colon and breast cancers, and can aid in protection against anxiety and depression.[176, 179] Regular physical activity also helps maintain muscle and bone strength, coordination, joint function and flexibility, and supports independence by facilitating ADL.[176] As an added benefit, seniors can maintain social connectedness by participating in physical activities with others.[178]

Healthy eating and nutrition

Healthy eating habits and nutrition can help to prevent illness and may reduce the necessity for medications and health care services over time.[180] When seniors eat a healthy diet, they benefit from increased mental acuity, improved resistance to illness and disease, faster recovery from illness and injury, a more robust immune system, higher energy levels and improved management of chronic health issues.[181] Yet reported food consumption of seniors shows that, like younger Canadians, many do not eat a balanced diet. For example, in 2004, 52% of men and 60% of women aged 71 and older reported that they did not consume the recommended daily minimum of five servings of fruits and vegetables.[182]

As seniors age, a decrease in lean body mass means they require fewer calories, and therefore must consume foods with a higher concentration of nutrients to maintain the required intake of vitamins and minerals while decreasing calories.[180, 183] Food insecurity exists when someone does not have physical and economic access to sufficient, safe and nutritious foods to meet the needs of a healthy and active life.[184] While the majority of seniors are thought to be food secure, Aboriginal peoples and those living in rural or remote communities are more likely to face increased barriers to accessing nutritious foods through issues such as cost and availability.[185, 186] Poor nutrition or malnutrition, meaning a decrease in nutrient reserves, can result from "an insufficient or poorly balanced diet or faulty digestion or utilization of foods."[180, 187] Poor appetite, poor choice of foods or poor absorption of certain nutrients can all lead to malnutrition. These factors can be influenced by dietary restrictions, medications, physical or psychological diseases such as hypertension and depression, a change in the ability to taste or smell, difficulty chewing or swallowing, and alcoholism.[180, 181, 188, 189]

Malnutrition is more prevalent (as much as 60%) among seniors in nursing homes or hospital environments where the health and functional capacities of residents are more likely to have deteriorated, than among seniors living in the community.[180] Seniors living alone or with health problems are also more prone to malnutrition as they may not enjoy eating meals alone, may make poor food choices, may not feel like cooking or may not know how to cook.[181, 188]

Malnutrition among seniors can exacerbate the decline of immune and sensory functions and aggravate symptoms of chronic diseases such as cancer, cardiovascular disease, diabetes and osteoporosis.[7, 190] Unhealthy eating can also result in fatigue, problems with the heart, lungs and digestive system, low red blood cell count (anaemia), poor skin integrity and depression.[188] Additionally, malnourished seniors are at risk of reduced independence, early institutionalization and mortality.[180] Seniors who do not eat enough can experience dizziness and weakness, which increases the risk of falls. An inadequate intake of B vitamins can lead to reduced cognitive functions and an increased risk of dementia.[7, 191] Unintentional weight loss can lead to muscle and bone loss, which negatively impacts strength, balance and endurance, increasing the possibility of injuries.[7, 12]

Smoking

Smoking is less prevalent among seniors than among the younger population, with 9% of Canadians aged 65 years and older being current smokers (either daily or occasional) and 47% being former smokers.[192] However, smoking is much more common among Aboriginal seniors, with 24% of those age 65 years and older not living on a reserve being daily smokers.[73] More specifically, 22% of First Nations seniors, 24% of Métis seniors and 36%

of Inuit seniors are smokers and 39% of First Nations seniors, 43% of Métis seniors and 38% of Inuit seniors were smokers at one time but have since quit.[73]

The effects of smoking on health and well-being are well documented.[7, 193, 194] Aside from its well-known association with lung cancer, heart disease and stroke, cigarette smoking is also related to an increased risk of hip fractures, cataracts, chronic obstructive pulmonary disease, kidney and pancreatic cancers, and periodontitis.[193-195] Smoking can also interfere with various drug therapies, including anti-depressants, causing medications to be less effective.[194] Among seniors, the mortality rate of current smokers is double that of those who have never smoked.[194] Eight of the top fourteen causes of death among seniors have been linked to smoking and half of all long-term smokers die of tobacco-related illness.[193, 194]

The majority of seniors who currently smoke have been smokers for most of their lives. Almost half (49%) of all seniors who have ever smoked (now or in the past) had their first cigarette by the age of 16 and 83% had done so by the age of 20.[192] Seniors who smoke tend to be less accepting of any health risks associated with smoking and, along with some of the general smoking population, may actually see smoking as a positive coping mechanism and use it to deal with emotional or stressful situations or to alleviate psychiatric symptoms.[7, 194]

Contrary to the idea that seniors are too old to benefit from quitting smoking, overall health risks and risk of death from smoking-related illnesses decrease after seniors quit, while their quality of life improves within the first two years.[7, 196] Even someone who does not quit smoking until age 60 can expect to increase their life expectancy, on average, by three years compared to those who continue to smoke.[7, 196, 197] Seniors that do quit smoking tend to do so because of advice from a physician, self-motivation or as a consequence of being diagnosed with a serious health problem.[7, 194]

Alcohol and other substance use

As with smoking, the rate of alcohol use among seniors is lower than that of younger age groups. However, the proportion of seniors with alcohol problems (6% to 10%) is the same as is found in other adult groups.[198, 199]

Seniors, like younger Canadians, may use alcohol to cope with problems related to their life situation including stress, poverty, and lack of proper nutrition or housing.[199] Similarly, emotional problems arising from negative situations such as abuse, grief, loneliness or depression can also lead to alcohol use.[199, 200] Those faced with large amounts of free time after retirement may also turn to alcohol to help pass the time.[200]

Seniors are more vulnerable to the effects of alcohol than are younger adults, as seniors' bodies process it more slowly.[199] Alcohol reduces muscle control, which increases the risk of falling for seniors and can also exacerbate certain health issues, including confusion and memory loss, liver damage, diabetes, heart or blood pressure problems, and stomach problems.[199] As well, more than 150 medications commonly prescribed to seniors can result in problems if consumed with alcohol; some may not work as they are meant to, while others may have an increased or dangerous effect.[199] This is a concern given that high rates of depression and suicide are associated with substance use issues among seniors.[198, 201]

Among all age groups, health care professionals may have the most difficulty identifying seniors experiencing substance use/abuse issues given that indicators such as memory problems, confusion, lack of self-care, depression, sleep problems and falls may be incorrectly attributed to the effects of aging.[198]

Medication use

When surveyed, 76% of Canadian seniors in private households reported using at least one medication (prescription and/or over-the-counter) in the past two days and 13% had used five or more different medications.[202] The proportions are even higher among seniors living in institutions, where 97% used one medication and 53% used five or more.[202]

Properly prescribed and supervised pharmaceutical therapy can prolong life, reduce suffering and increase quality of life for seniors. Unfortunately, about 50% of prescriptions are not taken properly by seniors, which may reduce the medication's effectiveness or be potentially dangerous.[199] There is also a concern that some medications, such as those for anxiety, insomnia and inflammation, are over-prescribed for seniors.[203] This may be due to a

communication gap between seniors and physicians, inaccessibility of alternate therapies, or the use of multiple physicians and pharmacies.[203]

On their own, medications can cause adverse side-effects such as unsteadiness and confusion, delirium and increased levels of depression.[199] Up to 20% of hospitalizations of people over the age of 50 are the result of problems with medications.[199] Further, taking multiple medications can lead to unwanted drug interactions in which medications may not work as well or can cause dangerous reactions.[199] When used over a long period of time, certain medications can lead to dependence.[199]

Mental health

Positive mental health can help seniors cope with many difficult issues and life events, such as chronic illness or the loss of partners and friends.[205] For seniors suffering from poor mental health or mental illness, the negative impacts are far-reaching. Mental health issues can affect physical health, emotional and social well-being, and quality of life.[205]

In 2009, the majority of seniors reported they were, in general, satisfied with life (97%) and that they had very good or excellent mental health (70%).[100] Among those living in the community, an estimated 20% have some form of mental health issue versus 80% to 90% of those living in an institution.[206, 207] It is important to recognize however, that neither poor mental health nor mental illness can de dismissed as part of the normal aging process.[208] If left unmanaged, they can have a significant impact on the overall health and well-being of seniors.[208]

Mental health is the capacity of each of us to feel, think and act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is a positive sense of emotional and spiritual well-being that respects the importance of culture, equity, social justice, interconnections and personal dignity.[204]

Mental illnesses are characterized by alteration in thinking, mood or behaviour – or any combinations thereof – associated with some significant distress and impaired functioning. Mental illnesses take many forms, including mood disorders, schizophrenia, anxiety disorders, personality disorders, eating disorders and addictions such as substance dependence and gambling.[204]

Early life experiences and circumstances contribute to mental health over the lifecourse. Suffering abuse or living in a low-income household, for example, can negatively impact mental health.[205] Aboriginal seniors aged 55 and older who attended residential schools have reported experiencing higher rates of depression than those who did not attend residential schools.[73, 74, 209-211] Conversely, learning positive coping skills early in life may contribute to positive mental health during childhood and into adulthood.[205] Most mental illnesses are known to manifest themselves in the early years and persist throughout the lifecourse, impacting overall health, happiness and productivity.[212, 213]

Factors that can detract from mental health in the senior years and are more prevalent during this part of the lifecourse include stress related to a deterioration of physical health, isolation and loneliness, physical inactivity and chronic physical conditions.[205] Additionally, seniors caring for seniors are more likely to report psychological than physical health consequences.[214] Senior women, in particular, are more likely than senior men to report that they sometimes or nearly always feel stressed between helping others, trying to meet other responsibilities and finding time for themselves (31% of women compared to 19% of men).[214]

Suicide is often associated with younger people, but men over the age of 85 have – on average – higher suicide rates (29 per 100,000) than all other age groups.[42, 124, 205] Although the rate of suicide deaths are lower among senior women, they have an overall higher rate of attempted suicide compared to senior men.[205]

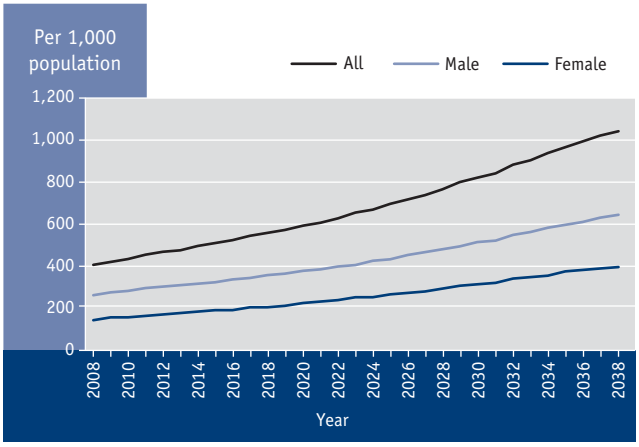
Common mental illnesses affecting the health of seniors include Alzheimer's disease and other dementias, depression and delirium.[205]

Alzheimer's disease and other dementias

Although many people use the terms dementia and Alzheimer's interchangeably, dementia is actually the medical term used to describe a number of conditions characterized by the gradual loss of intellectual functions. Alzheimer's disease is one of those conditions and is the most common.[215]

In 2008, an estimated 400,000 senior Canadians were living with dementia and it is estimated that this number will more than double within 30 years (see Figure 3.6).[215, 216] The estimated prevalence of dementia is higher among those aged 80 years and older, with a rate of 212 per 1,000 (55% of all Canadians with dementia), while seniors aged 65 to 79 years have a rate of 43 per 1,000.[42, 216] Senior women are more likely than senior men to be affected by dementia (103 per 1,000 versus 72 per 1,000 respectively).[42, 216]

Figure 3.6 Projected prevalence of dementia in senior Canadians* by sex, Canada, 2008 to 2038[216]



* The population over the age of 65 was simulated within the current model using data obtained from the *Canadian Study of Health and Aging*.

Source: Smetanin, P. et al. *Rising Tide: The Impact of Dementia in Canada 2008 to 2038*.

The cause of Alzheimer's disease is unknown though research suggests that it results from a combination of risk factors.[217] One risk factor is age itself given that, as a person ages, the brain's ability to repair itself decreases.

Canadian seniors are also at greater risk of other factors associated with Alzheimer's disease such as high blood pressure, elevated cholesterol and being overweight.[215, 217] Type 2 diabetes, stroke and chronic inflammatory conditions such as some forms of arthritis are also known to be risk factors for Alzheimer's disease and associated dementias.[215, 217]

Genetics can also contribute to the risk of developing both inherited Familial Alzheimer's disease and the more common sporadic forms of the disease. Those with an immediate family member with the disease are two to three times more likely to develop it themselves than those who do not have a direct relative with the disease.[215, 217] Women are at greater risk for Alzheimer's disease and associated dementias than men, in part due to the fact that they generally live longer. Hormonal changes at menopause are also thought to contribute to women's increased risk.[217] Other identified risk factors are a history of prior head injury, Down syndrome, a history of episodes of clinical depression, chronic stress, lack of physical exercise, inadequate intellectual stimulation, unhealthy eating habits, low levels of formal education and low socio-economic status.[215, 217]

Memory problems are one of the earliest symptoms of Alzheimer's disease.[218] The disease is progressive and, depending on the stage, can range in severity from mild to severe.[218] Mild forms can cause problems such as getting lost, difficulty handling money or paying bills, taking longer to complete routine tasks, repeating of sentences, poor judgement and small changes in mood or personality.[218] Moderate Alzheimer's disease causes damage to parts of the brain controlling language, reasoning, sensory perception and conscious thought resulting in increased memory loss and confusion. Persons with moderate Alzheimer's disease also experience difficulty recognizing friends and family, difficulty or an inability to learn new things, difficulty performing tasks with multiple steps, difficulty coping with new situations, hallucinations, delusions, paranoia and impulsive behaviour.[218] In those diagnosed with severe Alzheimer's disease, significant shrinkage of the brain tissue results in an inability to communicate, as well as complete dependence on others for care.[218]

The Health and Well-being of Canadian Seniors

Depression

Depression, being a mood disorder, can prevent seniors from fully enjoying life and affect many aspects of their health.[205, 219] Emotional and psychological manifestations of depression include sadness, feelings of worthlessness or guilt, fixation on death with thoughts of and/or attempts at suicide, trouble concentrating, loss of interest in hobbies or other enjoyable activities, and social withdrawal and isolation.[208, 219] Seniors living with depression can suffer from fatigue, changes in weight and appetite, sleep disturbances, and physical aches and pains.[208, 219] If left untreated, depression may also result in alcohol and prescription drug abuse.[208, 219]

There are several factors that can cause or increase the risk of depression in seniors and many are the result of life changes that occur with aging. Physical influences include chronic illness, disability, chronic pain, cognitive decline and certain medications.[219, 220] Emotional events such as the loss of a spouse, friend or family member can contribute to depression in seniors, as can the reduced sense of purpose which may come with retirement or physical limits on activities.[219, 220] Loneliness and isolation – which may result from living alone, a reduced social circle or decreased mobility – are also potential risk factors for depression, as are common fears among seniors such as challenges with health issues or a fear of falling.[219, 220]

The prevalence of depression is higher among women than men, although the reasons why are not entirely understood. For both sexes, those who have been depressed in the past or who have a biological relative with depression are at greater risk of depression.[220] Levels of diagnosed depression also vary by location of residence. Seniors who continue to live within the community tend to have lower rates of diagnosed depression (1% to 5%) compared to seniors living in long-term care facilities (14% to 42%).[221-225] A recent study of Canadian seniors living in residential care found that 44% had either been diagnosed with depression or showed symptoms of depression without diagnosis.[221]

Although it is not clear why, depression can also lead to higher mortality rates, even when other risk factors are taken into account.[219, 226, 227] In studies, seniors with depression were one and a half to two times more likely to die than those without depression.[221, 222, 225, 227-230]

Delirium

Delirium (also known as acute confusion) is another mental health condition found most commonly among seniors. It is characterized by impairment in the ability to think clearly, to pay attention or to remember a few days or hours ago. Onset is fairly rapid over a short period of time – from several hours to days – and is usually temporary, lasting for a few hours up to several weeks.[231, 232] Delirium often occurs in hospitalized seniors. It is estimated that 10% to 15% of hospitalized seniors have the condition at the time of admittance while 15% to 25% develop it during their stay.[233] Delirium can also increase the risk of falling and the length of hospitalization.[234] While the number of seniors in the community who experience episodes of delirium are unknown, it is thought that 32% to 67% of seniors with delirium go undiagnosed.[233, 235, 236]

Causes for delirium can include severe infections, high fever, lack of fluids, diseases of the kidney or liver, lack of certain vitamins, seizures, lack of oxygen, head injury, reaction to certain medications or alcohol, or as the result of surgery or a fall.[231, 232] In many cases, delirium is not recognized or is misdiagnosed as another condition such as dementia or depression.[232, 237]

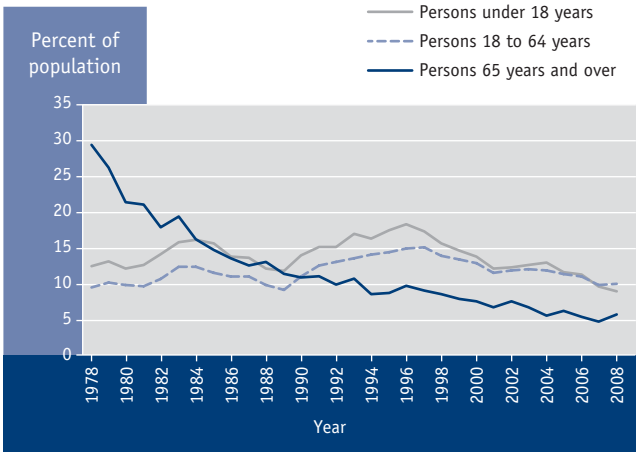
The Health and Well-being of Canadian Seniors

Economic well-being

Income is known to be an important determinant of health, with those living in low-income – including seniors – at greater risk of poor health.[174] Seniors living in low-income may be unable to access nutritious foods, have difficulties paying their mortgage, rent or utilities, be unable to complete necessary repairs on their homes, and experience limitations in terms of access to and affordability of transportation and non-insured health services, all of which can impact negatively on health.[238]

In 2008, 6% of Canadian seniors were living in low-income. As illustrated by Figure 3.7, this number represents a large decrease from 29% in 1978. Rates have dropped over this time period following the earlier introduction of retirement and financial income supplement programs in Canada.[239]

Figure 3.7 Persons with incomes below the after-tax* low-income cut-offs, by selected age groups, Canada, 1978 to 2008[239]



* These income limits were selected on the basis that families with incomes below these limits usually spent 63.6% or more of their income on food, shelter and clothing. Low-income cut-offs were differentiated by community size of residence and family size.

Source: Statistics Canada.

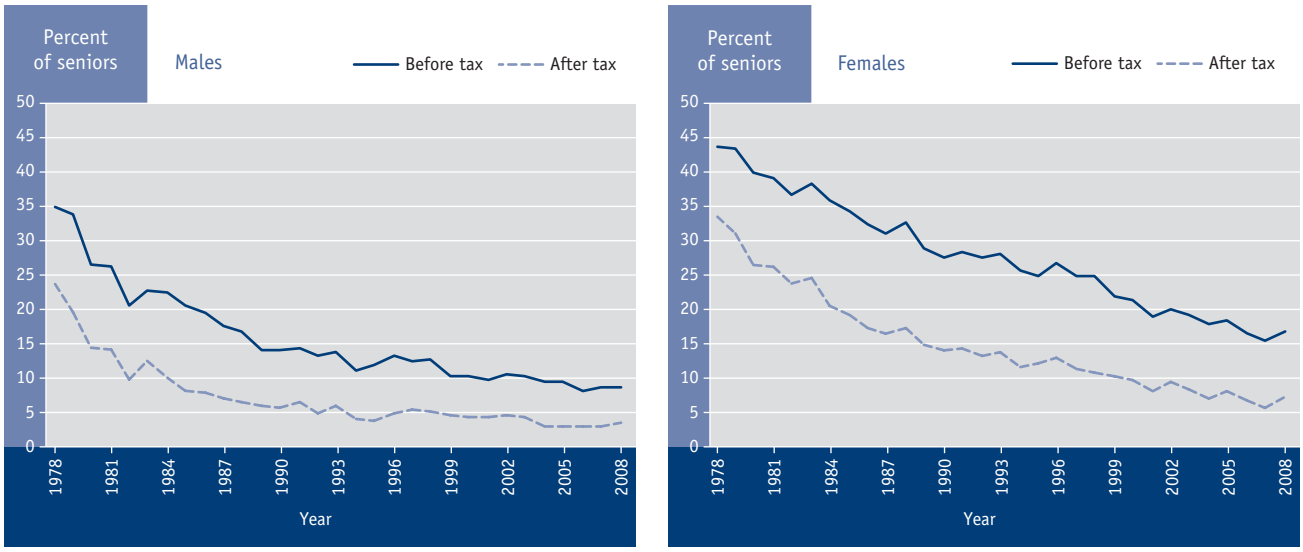
The decrease in the proportion of seniors living in low-income has been similar for men and women when measured using both before- and after-tax income (see Figure 3.8).[239] However, the decrease for women has been slightly greater, contributing to the narrowing gap between the percentage of men and women living in low-income.[73] Between 1978 and 2008 the gap in after-tax income between senior men and women decreased from 10% to 4%.[239]

However, not all subpopulations of seniors are experiencing such low proportions of those living in low-income. In 2001, 13% of Aboriginal seniors were living in low-income households compared to 7% of non-Aboriginal seniors. Similarly, 50% of unattached Aboriginal seniors (those not living with family) were living in low-income compared to 40% of unattached non-Aboriginal seniors.[73] In the same year, 17% of immigrant seniors living in Canada for less than 20 years and 8% of those living here 20 years or more lived in low-income households compared to 5% of Canadian-born seniors. For unattached immigrant seniors, 67% of those living in Canada less than 20 years and 43% of those living in Canada 20 years or more were living in low-income compared to 39% of unattached Canadian-born seniors. Also in 2001, 19% of all unattached senior Canadian women were living in low-income.[239]

The additional benefits available to Canadians since the inception of Canada's public pension system have helped to increase the average after-tax income for senior couples by 18% between 1980 and 2003.[73] The *Luxembourg Income Study* has credited Canada's pension system as being a major factor in the shift from ranking Canada as a nation with one of the highest occurrences of low-income seniors in the late 1980s to one of the lowest in the mid-2000s (see Figure 3.9).[73, 240]

In 2006, over 95% of seniors received some of their income from OAS, the GIS or the *Spouse's Allowance* (SPA).[241] In addition, 96% of older men and 84% of older women received CPP/QPP benefits.[241] Those who did not receive these benefits were either ineligible or did not apply to receive them.[242] For example, in 2006 more than 150,000 seniors who were eligible to receive the GIS did

Figure 3.8 Canadian seniors living in low-income before-tax† and after-tax* by sex, Canada, 1978 to 2008[239]



† These income limits were selected on the basis that families with incomes below these limits usually spent 54.7% or more of their income on food, shelter and clothing. Low-income cut-offs were differentiated by community size of residence and family size.

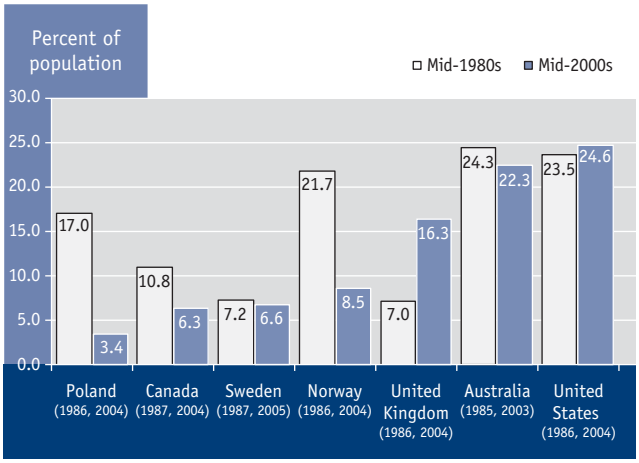
* These income limits were selected on the basis that families with incomes below these limits usually spent 63.6% or more of their income on food, shelter and clothing. Low-income cut-offs were differentiated by community size of residence and family size.

Source: Statistics Canada.

not.[243] Combined, these federal supplements accounted for 43% of the total income of all Canadian seniors.[241] In 2000, 73% of Aboriginal seniors' income came from OAS, CPP, GIS and *Employment Insurance* (EI), compared to 48% for non-Aboriginal seniors.[73] More than half of seniors (62%) receive some sort of retirement income from private sources, such as workplace pension plans and *Registered Retirement Savings Plans* (RRSPs), representing 34% of the total annual income for all Canadian seniors.[241]

The level of educational attainment of seniors during their formal schooling years is reflected in their income levels throughout life (see Figure 3.10).[244] Between 2002 and 2007, Canadians aged 65 and older whose highest level of education was a high school diploma or less were more than twice as likely as those with a university degree (13% vs. 5%) to have lived in a low-income household at some point during that five-year period.[245]

Figure 3.9 Relative low-income* rates among older persons, select countries[240]

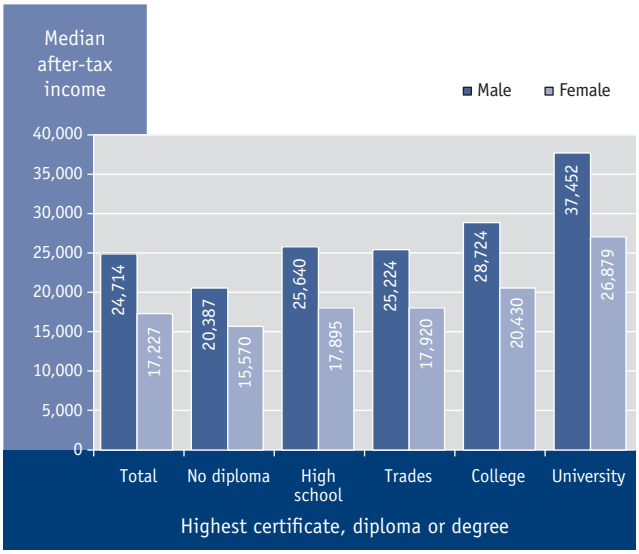


* A relative measure based on low-income cut-off defined as one-half of the median family income after-tax in each country.

Source: *Luxembourg Income Study.*

The Health and Well-being of Canadian Seniors

Figure 3.10 Median after-tax income for seniors by sex and highest education level attained, Canada, 2006[244]



Source: Statistics Canada.

Social well-being

The social well-being of seniors is influenced by a number of factors, including satisfaction with life, social connectedness with others, and whether or not they are productive and active in the community. Poor levels of social well-being can negatively impact health and quality of life.

Social connectedness and isolation

Canadians who are not able to access, or do not participate in, social support networks may lack social connectedness, become isolated or lonely, or lack a sense of belonging.[205, 246] In 2009, approximately 70% of seniors reported feeling a somewhat or very strong sense of belonging to their community.[175] In fact, more seniors reported feeling a strong sense of community belonging than any other age group except youth (aged 12 to 19 years).[175]

Although it is unclear whether it is good health that follows from or leads to social connectedness, the two are interrelated. In the 2003 CCHS, 62% of seniors who reported a strong sense of community belonging also reported good health, compared to only 49% of those who felt less connected.[179] A study of older U.S. adults (aged 50 years and older) found that higher levels of social integration based on marital status, volunteer activity, and frequency of contact with children, parents and neighbours, was associated with delayed memory loss as they aged.[247]

The process of aging reduces social networks, as seniors tend to focus their networks around those with whom they have an emotional closeness, whereas younger adults tend to have broader social circles.[248] Additionally, as people age, they are faced with illness, disability and the increasing loss of friends and family members, which further limits their opportunity for social networking.[7, 249, 250]

Life circumstances such as living arrangements, retirement and geographic proximity to family can also factor into the level of social connectedness experienced by seniors.[7, 249, 250] The majority of seniors (93%) live in private households; nearly two-thirds (65%) live with a spouse; and more than one-quarter (28%) live alone.[73, 95] A larger proportion of men live with a spouse than women (79% compared to 54% respectively) and of those aged 75 to 84 years, women (43%) are more likely to live alone than men (18%).[95] Immigrant seniors, particularly those who are recent immigrants, are less likely to live alone compared to Canadian-born seniors.[73]

Having at least one close friend can be an important factor in reducing a sense of isolation. In 2003, 88% of those aged 65 to 74 years and 82% aged 75 years and older reported they had at least one close friend.[73, 251] In 2001, the majority of Aboriginal seniors not living on a reserve (70%) reported that they had someone to listen when they needed to talk, all or most of the time.[73] Canadian seniors who belong to an organization (e.g. community group, political party, religious organization) are less likely to report a sense of social isolation and are more likely to report having six or more friends.[73]

Transportation or economic barriers can sometimes limit or prevent social opportunities.[7, 249, 250] Issues of physical mobility and lack of access to safe and affordable public spaces are also barriers to social connectedness.[7, 82] Additionally, some individuals may not call on others for the support they need because they feel they are supposed to be, or should appear to be, independent.[252]

Remaining connected through various activities, including organizational involvement or volunteering, gives seniors a sense of purpose and belonging to something bigger than themselves.[253] In 2007, 36% of seniors aged 65 and older volunteered in some capacity and, on average, contributed more hours annually than any other age group.[254] More than half (54%) of the seniors surveyed indicated a health problem or being physically unable, as a reason for not volunteering or not volunteering more.[254] Research on the effect of volunteering on well-being showed that those aged 60 years and older who volunteered reported higher levels of well-being, regardless of the number of organizations for which they volunteered, the type of organization or the perceived benefit of the work to others.[255]

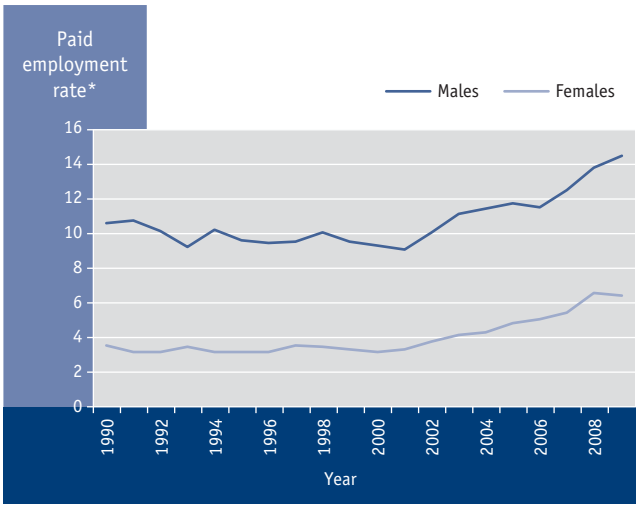
Ongoing involvement in volunteer activities has been shown to moderate the negative psychological impacts associated with developing functional limitations.[256] In addition to improved mental health, seniors who volunteer may reduce their chances of developing heart disease, diabetes and cardiovascular disease.[7] Research has shown that seniors who participated in social activities had significantly lower mortality rates than those who did not.[257]

Labour and retirement

Whether due to a return to work after retirement or simply delaying retirement past the age of 65, participation in the paid labour force among senior Canadians has been increasing (see Figure 3.11).[73, 258] In 2009, more than 400,000 seniors (11%) were active in the paid workforce (15% of senior men and 7% of senior women).[258] This was up from nearly 200,000 (7%) in 1990.[258]

Retirement from the labour force can be a significant change for many individuals and can influence their standard of living, daily activities and social networks. Recent changes to labour laws and retirement policies have affected the age at which Canadians retire in some provinces.[47] Mandatory retirement policies were the reason why one in five retirees reported that they left the labour force at the age of 65 years in 2002.[73] Health problems were also cited as a reason for retirement (24% of retirees).[73] Of all retirees aged 50 years and older, 26% reported they would have continued to work if ill health had not been an impediment.[73]

Figure 3.11 Paid employment rate of seniors by sex, Canada, 1990 to 2009[258]



* The number of persons employed expressed as a percentage of the population 65 years of age and over.

Source: Statistics Canada.

Almost half of recent retirees (47%) reported that they enjoyed their retired life more than their pre-retirement life.[73] Those who reported good to excellent health entering retirement also indicated an increase in life satisfaction post-retirement.[73] After retirement, some individuals choose to return to the labour force for various reasons including unhappiness with retirement, missing employment, looking for an opportunity to do more satisfying work or because of financial need.[73] In general, men are more likely than women to return to the labour force (25% compared to 18%).[73]

Giving and receiving care

Canadians, regardless of age, occasionally depend on social networks of family, friends and neighbours to help with errands and daily tasks. In 2003, 29% of seniors aged 75 and older reported receiving help from someone outside their home for transportation or running errands.[73] The majority of seniors aged 65 to 75 years old (84%) did not receive transportation help, partly because they had access to a vehicle (89%) and possessed a valid

driver's license (85%).[73] Overall, seniors living alone were more likely to receive help with domestic work, home maintenance, outdoor work and emotional support.[73]

In 2002, approximately 25% of seniors living in private homes reported that they received help or care due to a long-term health problem.[73] Another 2% reported they needed care but did not receive it.[73] Almost three-quarters (72%) of seniors receiving care got some or all of their help from informal sources, such as family and friends.[73] Seniors living alone were more likely (64%) to receive help from formal sources such as government and non-government organizations.[73]

Seniors are not only care recipients; many are also caregivers to others, including other seniors. While many seniors (47%) care for immediate family, they also take care of friends and neighbours (38%) and other relatives (13%).[259] In 2007, of caregivers aged 45 and over who provided some form of unpaid/informal care to a senior with a long-term health condition or physical limitation, 16% were seniors aged 65 to 74 years and 8% of were seniors aged 75 years and older.[259, 260] Among seniors caring for other seniors, most (63%) were caring for two or more people.[259] A quarter (25%) of seniors caring for other seniors spent 10 or more hours per week and 15% spent 20 or more hours per week engaged in unpaid care of another senior.[261] Two-thirds of seniors caring for seniors are younger than age 75 and more than half (57%) are women, although the gender gap is narrowing as more men become involved in caring for older family members and friends.[262]

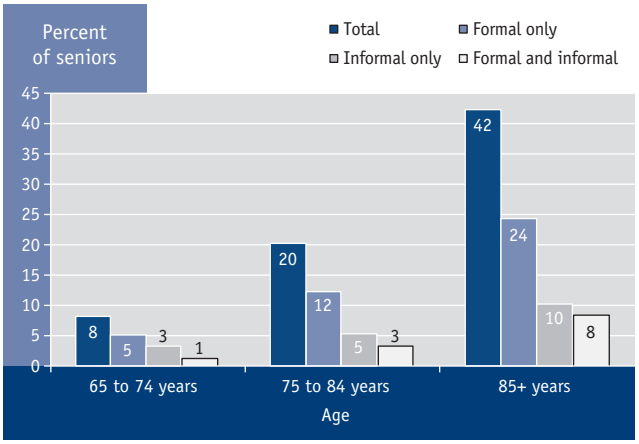
About one in five seniors caring for other seniors reported that their social activities changed as a result of their caring roles (23% of women; 21% of men).[214] The social isolation and lack of "downtime" that may result from caregiving responsibilities have the potential to manifest as poorer physical and emotional health for caregivers.[214] While the ability of seniors caring for seniors to partake in social activities can be limited, 70% of senior women caregivers and 66% of senior men caregivers reported the benefit of a strengthened relationship between themselves and their care recipient.[214]

Access to care and services

Canadian seniors must be able to access appropriate care and services in order to maintain or improve their health and well-being. This can include a wide range of resources and support such as physician services, in-home care and social support. In 2009, most seniors (96%) reported having a regular family physician.[100]

Seniors who receive care and support do so through formal home care services (government-subsidized, private agency or volunteer) and informal support (provided by friends, family or neighbours).[263] In 2003, 15% of senior households reported receiving either formal or informal care.[263] And more senior women than senior men indicated they received formal (10% compared to 7%) and informal (5% compared to 3%) care services.[263] Not surprisingly, as seniors age the demand for both formal and informal home care services increases (see Figure 3.12).[263]

Figure 3.12 Percentage of seniors who received home care in the past year, Canada, 2003[263]



Source: Statistics Canada.

Seniors requiring intense, ongoing care that cannot be provided at home are more likely to reside in long-term care facilities. Over the last two decades the proportion of seniors living in these facilities has remained fairly constant at about 7%, although the degree of unmet need for, and within, such facilities is not known.[264] The number of facilities where support is provided has also

remained fairly stable over the same period, ranging from approximately 2,000 operating facilities across Canada with 160,000 beds in 1986 to 2,100 operating facilities with 207,000 beds in 2006.[265] Of the total operating facilities in existence in 2006, 54% were run by private organizations or corporations, 26% were run by religious and other non-profit organizations, and 20% were run by municipal, provincial, territorial or federal governments.[266]

In 2009, 56% of Canadian seniors had visited a dental professional in the past 12 months, while 20% had not visited one in five or more years.[100] Good oral health is important to the overall health and well-being of seniors. Poor oral health can result in a range of negative health outcomes including gum disease, lung infections and respiratory disease.[267] Additionally, tooth loss or pain from such things as gum disease, tooth decay or ill-fitting dentures can lead to difficulty chewing and subsequent poor nutrition or malnutrition.[268] According to the results from the oral health component of the *Canadian Health Measures Survey* (CHMS) (2007-2009), 13% of adults aged 60 to 79 avoided eating certain foods because of problems with their mouth.[269] Limited ability to endure a procedure, anxiety or fear of procedures, and reduced desire to access dental services as a result of medications or a decline in cognitive ability can all present barriers to appropriate dental care for seniors.[270] Further, some seniors mistakenly feel that they have no need for such care.[270, 271]

Results from the CHMS (2007-2009) indicated that costs associated with dental care was a contributing factor for 13% of adults aged 60 to 79 years avoiding seeing a dental professional, while a further 16% declined care due to cost.[269] These percentages increase for persons aged 60 to 79 years who are living in low-income with 24% avoiding visits and 22% declining all recommended care due to costs.[269] As well, a dentist may be reluctant to treat elderly patients due to the fact that treatment may take longer and be more difficult, or based on the misconception that seniors have insufficient patience, endurance or finances to undergo treatment.[270] For the many seniors who do not have dental insurance, financial considerations may be the greatest barrier.[272]

Seniors' access to care and services can be affected by a number of factors such as availability of resources and health information, awareness regarding community health services or inclination to inquire about them.[272]

Moreover, physicians may mistakenly attribute a senior's health concerns to the natural aging process, which can lead to inadequate assessment and follow-up.[272] Seniors who are deaf or hard of hearing can experience communication barriers, and for seniors with mobility issues or disabilities, physical access to a building can be an obstacle to services.[272] Seniors may also face attitudinal barriers that can prevent them from obtaining appropriate care and information. For example, being considered a "hard-to-serve" client or being treated as incapable of making their own decisions, may result in service providers consulting with family members about important decisions instead of with the seniors themselves.[272]

Seniors may also need to travel great distances to reach a doctor, hospital, or specialized health or diagnostic testing service not available in their local community.[273] Therefore, transportation issues (including costs associated with travel), physical mobility issues or reliance on outside help for transportation can limit seniors' access to these services.[272] Many of these factors can be further compounded by weather conditions that can make travel difficult.[273] In northern, rural and remote areas, seniors often have to manage with limited services since health care facilities are fewer and more

dispersed compared to urban regions.[273] There is also a limited number of health care providers (e.g. physicians, nurses, dentists) to offer health care services in northern, rural and remote areas.[273] As a result, families may end up caring for seniors without adequate support. In the event families are not able to provide this care, seniors may have to be relocated to institutions in larger communities, potentially isolating them from family, friends and their home communities.[273]

For some seniors, financial concerns can create additional barriers to care and services. The high cost of prescription medication and assistive devices (such as mobility aids or information technologies) may make these items prohibitive to seniors who require them.[272] Even those seniors with private health benefits or who are eligible for a provincial health or drug plan may not be covered for some of the costs associated with these drugs and devices.[272, 274]

Another factor influencing seniors' health and well-being is the level of health literacy among this population. In order to manage chronic conditions or other health problems and to make healthy lifestyle choices, seniors need to be able to read and interpret nutrition labels, follow dosage directions for medications and understand health information and instructions.[276] Only one in eight adults (12%) over age 65 has adequate health literacy skills for many basic health-related decisions.[276-278] Age is associated with lower health literacy of seniors due to several factors, including less opportunity for higher education earlier in life, slower processing of new information, higher incidence of mild cognitive impairment and dementia, and increased vision and hearing impairment.[73, 277, 279] Seniors with lower health literacy scores are more likely to report poorer health, including an increase in the prevalence of diabetes, as health literacy decreases.[280]

Health Literacy is "the ability to access, understand, evaluate and communicate information as a way to promote, maintain and improve health in a variety of settings across the life-course."[275]

Seniors who are Aboriginal, part of an ethnic minority group or who are new to Canada may face several additional barriers to accessing proper health care, such as conflicting cultural values or language barriers.[281] They may also avoid residential care unless they can retain their culture by speaking their language, eating their own food and properly observing their religion.[281] For immigrants, a lack of understanding of the roles of the health authority and service providers, and unfamiliarity with the various types of community services may present further impediments.[281] They may also be ineligible for full access to health care services or financial assistance depending on their immigration status.[281]

Abuse and neglect of seniors

One particularly concerning issue for the well-being of seniors is the potential for physical, psychological and financial abuse or neglect. It is difficult to know the extent of this problem in Canada since the data are extremely limited, outdated and, due to the nature of the issue, most likely under-reported. Research estimates, however, that between 4% and 10% of Canadian seniors experience some form of abuse or neglect from someone they trust or rely on.[283-285] Further, there is a lack of data on abuse and neglect of older adults in institutional settings although light has been shed on this problem through anecdotal reports and localized studies.[286] Just as the abuse and neglect of seniors can take many forms, the resulting effects of the abuse can have an impact on many aspects of their health and well-being.[287, 288]

The term **abuse** as it relates to seniors, has been defined by the World Health Organization as "a single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person."[282]

In 2007, 48 out of every 100,000 seniors in Canada were the victims of a police-reported crime at the hands of a relative.[289] The most frequently reported form of violent crime committed by relatives towards seniors was

common assault (52%), which includes actions associated with physical abuse such as pushing, punching, slapping and threatening to apply force.[289] Another 19% of violent crimes were threats and 16% were major assaults in which a weapon was used or which caused bodily harm.[289] Adult children and spouses (both current and former) were the most common perpetrators of violent crimes against senior victims.[289] Senior women were victimized by a spouse or ex-spouse at almost twice the rate of senior men (17 per 100,000 compared to 9 per 100,000 respectively). Senior male victims of family violence were more likely to be victimized by their adult children (15 per 100,000) than by any other relative.[289] The extent of unreported cases of physical abuse against seniors in Canada is unknown.[284, 285]

Abuse can result in direct physical outcomes such as injuries. In 40% of the police-reported cases of physical abuse involving seniors in 2007, the victim sustained some form of injury, usually due to physical force.[289] Canadian seniors may be more frail than younger adults and, as a result, their bones may break more easily and take longer to heal.[288] Additionally, abuse can cause other less obvious negative physical health outcomes such as gastrointestinal problems and headaches, and may aggravate other pre-existing health problems.[288, 290] Research has also shown that seniors who are victims of abuse have higher mortality rates than non-abused seniors.[288, 291, 292]

The health of seniors can also be impacted by psychological and/or emotional abuse. This type of abuse can include any action, verbal or non-verbal, which lessens a person's sense of identity, dignity or self-worth.[293] Available data from 1999 shows that approximately 7% of Canadians aged 65 years and older surveyed by Statistics Canada reported that they experienced some form of emotional abuse.[294] Seniors who reported emotional abuse reported that they were abused by a partner or ex-partner (78%), their children (26%) or a caregiver (2%).[295]

Financial abuse is broadly defined as the manipulation or exploitation of someone else's money.[296] According to the 1999 *General Social Survey*, 1% of seniors reported some sort of financial abuse by a partner, ex-partner, child or caregiver.[295] Partners and ex-partners were most often responsible for the abuse (61%), followed by children (36%) and caregivers (6%).[295]

Beyond physical impacts, abuse and neglect of seniors can have significant impacts on emotional and social well-being.[287, 288] Research shows that both older men and women who are abused have higher rates of depression and anxiety than those who do not experience abuse.[287, 288] Resulting depression can, in turn, increase seniors' isolation.[297, 298] Abuse and neglect perpetrated by family members or others close to the victim can cause shame, guilt or embarrassment.[288] Financial abuse of seniors can impact their health and well-being by reducing the resources necessary to maintain good health such as proper nutrition, physical activity, medications and care.[288] For some seniors who are victims of abuse and neglect, coping with the effects may lead to problems with alcohol or substance abuse.[288]

Some seniors, including women, the frail, and those who have a cognitive impairment or physical disability, are more likely to experience abuse or neglect. Chronic and physical illnesses and disability coupled with dependency and the need for greater care, place seniors at higher risk of abuse and neglect.[299] Other well-substantiated factors that increase the risk of abuse for older adults include living in a shared residence, social isolation and dementia. Risk factors associated with the abusive person include mental illness, hostility, alcohol misuse and dependency on the older adult. Within Aboriginal communities, shared living arrangements, poverty, low education and unemployment are identified as risk factors for abuse and neglect of seniors.[300, 301]

Summary

Seniors are living longer lives and most are experiencing good overall health. As life expectancy continues to increase, so too will issues related to physical and mental health and economic and social well-being of Canada's seniors. Although most seniors experience the conditions necessary for healthy outcomes, such as adequate income and strong connections to family and community, the lack or decreased availability of these conditions can lead to poor health and diminished well-being. This chapter has shown that in addition to the positive health experienced by most Canadian seniors, there are many negative influences and outcomes on seniors' health that need to be prevented, addressed, mitigated and/or improved. In some cases it is later-life transitions and challenges

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that pose a risk, while in other cases multiple influences along the lifecourse have compounded to create current health outcomes and serve as precursors to future health and well-being. Although in many instances prevention can be initiated much earlier in the lifecourse, action taken later in life can also be preventative, serve to delay the onset of some conditions or lessen the severity of existing health concerns. A discussion of approaches and interventions to address some of the key challenges facing the health of seniors and to provide the conditions necessary for healthy aging will be presented in the following chapter.

Setting Conditions for Healthy Aging

CHAPTER 4

By examining the health of Canadians across the lifecourse, it is apparent that there are complex interrelationships among biological, behavioural, psychological, social, and health system factors that influence healthy aging.[16, 302] Many events and exposures occur throughout life – from infancy to senior adulthood – that can positively or negatively influence health and well-being. As well, initiatives and interventions aimed at positively influencing health and well-being can provide opportunities to prevent illness and promote health at all stages of the lifecourse.[15, 16]

The previous chapter outlined the state of health and well-being of Canada's seniors and identified key areas that can impact healthy aging in Canada. These areas include: falls and injuries, mental health, abuse and neglect, social connectedness, healthy living, and care and services. This chapter will consider actions that can be taken to advance healthy aging in Canada within these same areas. Where possible, concrete Canadian and international examples are used that have either proven effective and/or hold promise to positively influence the health and well-being of seniors. Generally, these examples highlight best practices, strategies and interventions that demonstrate what can be accomplished, and identify where more work needs to be done to influence conditions for healthy aging in Canada. While the key issues are explored in detail, it is also important to understand that there are underlying conditions that can promote or work against healthy aging.

Meeting basic needs

Without the basics – adequate food, shelter, security and health care – many health issues affecting seniors cannot be adequately addressed. Chapter 3 showed that factors such as isolation, lack of independence, abuse, inadequate nutritional practices, barriers to care and higher risks for falls, injuries and some chronic conditions can all be linked to basic needs that are not being met.[7, 22, 303, 304]

Having adequate income is fundamental to healthy aging and Canada has been effective in reducing seniors' poverty. Compared to other OECD countries, the occurrence of low-income seniors in Canada is below the OECD average, and Canada has the fourth lowest percentage of seniors with low-income.[240, 305] In large part, this success is due to widespread eligibility for government income programs and public pensions such as OAS, the CPP/QPP, and the GIS.[238, 245, 305] The successful reduction of seniors' poverty levels can also be attributed to today's seniors having achieved higher levels of education and higher levels of income, including increased pensions and higher income from investments, and greater participation of women in paid employment over the lifecourse.[238, 245, 305]

While Canada has been effective in reducing seniors' poverty, about 250,000 Canadian seniors, many who are unattached senior women, still have incomes below the after-tax low-income cut-offs.[238, 239] Others who may experience economic challenges include seniors who provide unpaid caregiving to a spouse, child, family member or peer, or who spend a significant portion of their incomes on non-insured health (e.g. vision care) and drug costs.[7, 238] Seniors with inadequate income are more vulnerable to chronic disease and psychosocial stress. These seniors are also more likely to engage in riskier behaviours, live in less healthy conditions and have less access to health care than those with higher incomes.[306]

Seniors can be disproportionately vulnerable to an interruption in meeting their basic needs during or after emergencies and natural disasters. Ensuring that seniors are supported and their health and functional capacity is maintained in these situations is an important public health issue. Despite this, the unique needs and risks, seniors in emergencies have often been overlooked or given low priority.[307] It is not age, per se, that makes seniors a vulnerable group; rather, it is the combination

of factors that can affect an individual's capacity to cope. This is especially true when health and social factors (such as low-income, pre-existing physical and/or mental health, and functional limitations) exist, interact and are exacerbated during an emergency situation.[307-310]

Populations and regions which are underserviced prior to an emergency event experience subsequent declines in support following the event.[309] Displacement can further disadvantage those already compromised.[308, 311] This often leads to a double burden for vulnerable populations such as seniors. In some cases, previous sources of support may be lost at the same time as responsibilities increase (e.g. caring for grandchildren).[311] It is important to note, however, that seniors can also be a resource with respect to emergency preparedness by volunteering, caregiving and providing knowledge and skills (see Textbox 4.1 *Meeting basic needs during emergencies*).[307]

Aging in place of choice

All Canadians should be able to age in their place of choice. However, choice is just one of several factors that can determine a person's residence. Others factors can include employment opportunities, household income, family needs (e.g. proximity to extended family and caregiving), type of community (rural, urban) and health status. For seniors, the choice of where to live may involve additional considerations such as the wish to stay in their current homes and/or communities, or a preference to live in dwellings that require lower maintenance, and where they can access support.[274]

Aging in place of choice is the ability of individuals to choose to live in their own communities for as long as possible, and to have access to home and community services that will support this ability.[8, 315-317]

Although most Canadian seniors report preferring to live in private homes, evolving circumstances (e.g. losing a spouse, having no dependents, declining health, lowering of income, lacking access to services) and factors such as size, design and maintenance of the home may encourage and/or force seniors to move.[318] To address

Textbox 4.1 Meeting basic needs during emergencies

The World Health Organization and its partners, including the Public Health Agency of Canada, examined how seniors were affected in a range of disasters through a series of 16 case studies. The case studies examined the strengths and gaps in emergency planning, response and recovery, as well as the contributions seniors made to their families and communities. The case studies also identified the importance of considering the particular needs of seniors in all phases of emergency management, from planning through to recovery, including ensuring appropriate shelter, consideration of specific nutritional needs, and access to medications and assistive devices, and health and social services.[312]

Almost all of the case studies uncovered significant contributions made by seniors.[312, 313] For example, senior volunteers contributed occupational skills and knowledge, and provided outreach, information and emotional reassurance. The contributions made by seniors was seen during the Manitoba flood (1997) when many seniors helped with cooking, baking, donating money and clothing, fundraising, hauling sandbags, helping in shelters and socializing with evacuees. Similarly, in the British Columbia firestorm (2003), senior volunteers helped their immediate families and provided information, advice and technical skills in the recovery phase (e.g. locating wells, assessing building damage).[312]

Canada has been a key partner in the case study exercise, facilitating knowledge exchange and new partnerships between emergency management and gerontology sectors. Many sectoral networks are currently collaborating to act on priorities and policy recommendations identified in a framework for action developed in 2008 as an outcome of this undertaking.[314]

some of these issues, programs such as the CMHC's Home Adaptations for Seniors' Independence Program have helped homeowners and landlords pay for home adaptations to extend the amount of time low-income seniors (those with an income below the specified regional lower limits) can live independently and in their own homes.[62] Adaptations, such as adding handrails, installing reachable cupboards, storage and door handles, and undertaking bathroom modifications such as grab bars are intended to meet age-related disabilities. Another CMHC program that has benefited seniors is the Residential Rehabilitation Assistance Program for Persons with Disabilities, which offers financial assistance to homeowners and landlords to modify dwellings for disabled low-income Canadians.[63] To further address barriers associated with affordability, the Government of Canada has invested in the construction of social housing units for low-income seniors as part of its Economic Action Plan.[319] Provinces and territories match federal funds for affordable housing through federal-provincial-territorial agreements.

Broader community and environmental practices can also contribute to aging in place of choice by making homes and communities age-friendly. For example, community and neighbourhood development plans should include consideration of an aging population. Widespread standards can also make a difference. The current *National Building Code of Canada* includes provisions for safety standards such as barrier-free exits and the installation of railings. However, accessibility requirements in the *Code* do not apply to detached and semi-detached dwellings or to duplexes and triplexes.[61] Greater awareness and implementation of these barrier-free design standards by planners, builders and inspectors is needed. So too is the adaptation of barrier-free design within the broader community – a concept that is embodied into the age-friendly design approach. Projects that involve age-friendly communities aim to address standards by creating environments that are inclusive, supportive, accessible and promote all aspects of active aging.[10] Given the growing need for age-friendly design, it may be of interest to housing developers to introduce and incorporate modifications within new buildings.

Age-friendly communities and universal design

The WHO's *Global Age-Friendly Cities Guide* identifies key built, social and service environments necessary for age-friendly communities.[177, 320] An age-friendly city includes factors that benefit all age groups: accessible indoor and outdoor spaces, available/accessible transportation and housing, a variety of social and economic opportunities, and community support and access to appropriate health services.[8, 83, 177, 321, 322] These factors allow individuals to age in place and are accessible to all regardless of level of mobility or state of health. Canada has played a leading role in creating age-friendly environments through involvement in the development of the WHO's *Guide*, as well as through an Age-Friendly Communities Initiative. The initiative is engaging senior Canadians in planning and design within their own communities to create healthier and safer places for seniors to live and thrive. As well, a guide for rural and remote communities, similar to the WHO's *Guide* on cities, has been developed in Canada, acknowledging the need for all environments to be age-friendly (see Textbox 4.2 *Age-friendly cities and communities*).[82, 83]

Universal design is an important component of age-friendly communities. Universal design involves the design of products and environments that can be used by all people to their greatest extent.[327] The concept of barrier free and universal design has evolved since the 1950s as a result of a demographically changing and growing population that is living longer (some with disabilities), changes in legislation regarding human rights (right to access for all), as well as growing public acknowledgement of the benefits of barrier-free design and assistive technologies.[328] There are seven principles of universal design, including:

- equitable use for people with diverse abilities;
- flexible use that accommodates a range of preferences and abilities;
- simple/intuitive use that is easy to understand;
- perceptible use that communicates information to a range of sensory abilities;
- minimal hazards and adverse consequences of accidental/unintended actions;
- efficient and comfortable use that requires low physical effort; and
- size and space that is appropriate for a variety of abilities.[327]

Textbox 4.2 Age-friendly cities and communities

Many seniors live in environments that have not been designed for aging well. In response to these inadequate living conditions, an international movement has evolved to identify community-based factors, such as land use and urban design, that can improve the health status of seniors living in various communities.[177, 323] To address these types of issues and identify concrete indicators of an age-friendly city, the WHO launched an age-friendly cities project in 2005.[177] The project encourages communities to create physical and social urban environments that will better support older citizens in: making choices that will enhance their health; allowing them to participate more fully in their communities; and encouraging them to contribute their skills, knowledge and experience.[7] The project seeks to increase awareness of local needs and gaps, and recommends improvements to participating communities in order to catalyze development of more age-friendly, supportive environments.[177]

The WHO's Age-Friendly Cities Project advocates specific and practical community development and policy change in order to create age-friendly communities.[177] As part of this process, focus groups of older citizens and their caregivers/service providers identified age-friendly assets and barriers. This research was conducted in 22 countries and involved 33 participating cities (including four Canadian cities).[82, 177, 322] The resulting tool, the *Global Age-Friendly Cities Guide*, was launched in 2007.

Seniors, municipalities and their partners can use this assessment tool to improve age-friendly features of their community with:

- clean, quiet and peaceful environments;
- adequate, well-lit and well-maintained streets and sidewalks to reduce the risk of falling (e.g. snow-clearing in winter; a smooth, level, non-slip surface);
- walking paths that are safe from users on wheels (bicycles, rollerblades, skateboards) with nearby accessible toilets;
- accessible and affordable public transportation with priority seating;
- streets and buildings that are hazard-free (e.g. suitable stairs – not too high or steep – with railings; non-slip flooring);
- housing designs that integrate older people into the community; and
- opportunities for seniors to participate in civic, cultural, educational and voluntary activities, by making these activities accessible and affordable.[177, 322]

In September 2006, in conjunction with this initiative and recognizing Canada's diverse needs across communities, the Canadian Federal/Provincial/Territorial Ministers Responsible for Seniors endorsed the Age-Friendly Rural/Remote Communities Initiative. In 2007, PHAC and the provinces and territories also launched the *Age-Friendly Rural and Remote Communities Guide* (for communities with a population size of 5,000 or less). To date, there are about 100 communities in British Columbia, Manitoba, Quebec and Nova Scotia that have implemented these strategies to benefit their communities.[322]

A Canadian example: Age-Friendly communities in Quebec

In 2008, Quebec launched a program to support municipalities in their efforts to create age-friendly communities.[324] Within its first year, there were pilot projects running in six provincial municipalities and one regional county municipality. A first assessment of Sherbrooke, one of the six participating municipalities, has shown that the city has increased the number of public areas accessible to people with reduced mobility and purchased several buses with lower floors.[324, 325] In Drummondville, they have launched a code of conduct for users of motorized mobility aids – the first in Quebec. The city has also changed municipal regulations to make it easier for citizens to construct or modify their current homes into intergenerational housing.[326]

In essence, a good design is made for everyone regardless of age or capacity. Some communities, such as Shizuoka, Japan, have adopted universal design (see Textbox 4.3 *Universal design of Shizuoka*). As the population continues to age it will be important to consider how communities can support and enable their citizens to enjoy healthy aging and participate in society.[329, 330]

In Canada, the Canadian Human Rights Commission released a report in 2006 on *International Best Practices in Universal Design: A Global Review*. The report provides information on various subjects such as building designs that are accessible to all users, accessibility criteria in building codes and standards in Canada, space requirements to accommodate power wheelchairs, and the use of color contrasts and changes in textures for ease of building functioning.[331] In 2008, the Government of Ontario adopted legislation and customer service standards for accessibility that obliges all public and private organizations to accomodate people with disabilities.[332, 333]

Falls and injury prevention

As noted in Chapter 3, the majority of injuries to seniors are the result of falls and motor vehicle crashes.[148] Reasons for injuries are complex and can be attributed to a number of risk factors at the individual and community levels. Five key areas can contribute to reducing falls and preventing injuries, or mitigating the impact of these events on the health of seniors:

- developing falls prevention guidelines;
- increasing broad education and awareness programs;
- supporting healthy behaviours and choices;
- preventing falls with safer environments; and
- preventing driving-related injuries.

Each of these areas has either shown evidence of success and could be applied more broadly or is an area of promise where further work and investigation are required.

Developing falls prevention guidelines

The implementation of health care and public health practice guidelines can help to address risk factors for seniors' falls and ultimately create conditions for healthy aging. Although guidelines do not directly prevent

Textbox 4.3 Universal design of Shizuoka

Japan's Shizuoka Prefecture has adopted universal design into its environment by ensuring that all ages are considered when buildings, products, communities and environments are designed and created.[329, 330]

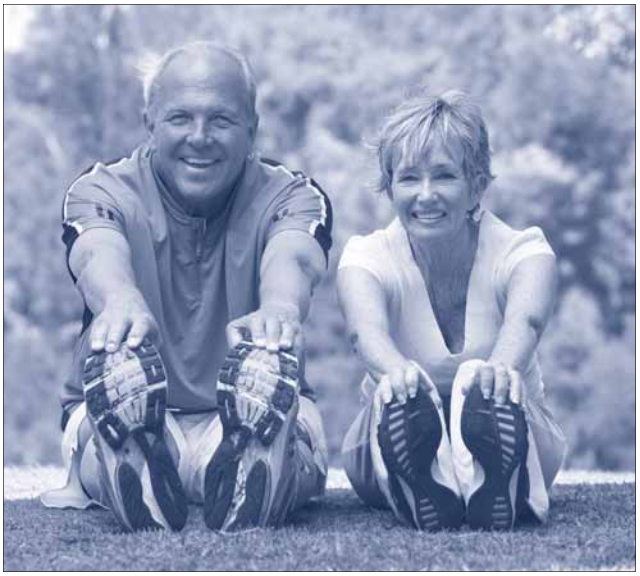
In 1999, a Universal Design Promotion Headquarters was established in Shizuoka to help promote the universal design concept to municipalities, businesses and individuals. Since then, government officials and others have promoted universal design through a broad range of awareness-raising strategies such as publications, seminars, workshops and internet-based activities.[329, 330]

In Shizuoka, universal design is already well-incorporated into everyday urban environments including:

- buses and other public transport vehicles with wide and low entrances for easy entry;
- increased numbers of bus shelters offering seating at different heights;
- finer road gratings that are safer for walking – particularly for those using canes and wheelchairs;
- accessible sidewalks made safer with joint heights that are the same as the sidewalks and tiles that are permeable to reduce slipping on rainy days;
- passageways at the local university with ridged guideways and hand and stair rails with floor numbers in Braille for the visually impaired and lecture theatres with wheelchair seating;
- public telephones positioned at lower levels with volume control;
- applying a universal design in hospitals with easy to read signs numbering and labelling medical areas; and
- easy-to-use Japanese-style furniture created for seniors.[329, 334-336]

Universal design encourages and supports the social interaction and physical activity of all members of society across the lifecourse.

Setting Conditions for Healthy Aging



falls, setting practices, standards, and management and assessment applications can contribute to a broad, overall falls prevention strategy. Falls prevention guidelines are necessary to assess individual risks, behaviours and challenges, and to establish standards to minimize the number and impact of falls. As well, guidelines can involve various sectors in reducing individual and community risk factors, and incorporate assessments and interventions into a broad strategy.[148, 337] Across Canada, falls prevention guidelines have been developed by organizations and governments; however, no broad national falls prevention guidelines currently exist.

National efforts on falls prevention strategies have included joint action with a variety of stakeholders. For example, Health Canada and Veterans Affairs Canada established a *Falls Prevention Initiative* from 2000 to 2004 that involved a community-based health promotion approach to help identify effective strategies for falls prevention among veterans. Professional organizations in Canada are also developing practice guidelines for falls prevention among seniors, such as the Registered Nurses Association of Ontario, which has developed *Prevention of Falls and Falls Injuries in the Older Adult* – a best practices toolkit for health care providers. The toolkit includes evidence-based clinical guidelines that have been implemented, assessed and evaluated.[337, 338]

For the most part, the American Geriatrics Society's *Guidelines for the Prevention of Falls in Older Persons* (2001) has set the international standard for seniors' falls prevention strategies.[148, 339] These guidelines are based on evidence gathered from systematic reviews, meta-analyses, randomized trials and cohort studies.[339] Recommendations have been developed based on this evidence, including:

- routine care of all seniors to assess fall history and identify potential risk factors;
- evaluation of those with a history of falls for risk factors such as abnormalities in gait, reduced mobility, chronic illness, vision impairment or effects of corrective eyewear and neurological system and/or cognition abnormalities;
- multi-factorial interventions such as exercising and using assistive devices;
- single interventions such as home modifications and medication management; and
- broad interventions such as bone strengthening strategies and using appropriate footwear.[148, 339]

Other countries, such as the United Kingdom and Australia, have also adopted guidelines and strategies for falls prevention.[148, 340, 341] The United Kingdom established *Clinical Guideline 21: The Assessment and Prevention of Falls in Older People* (2004), which included risk identification, multi-factorial assessments and interventions.[148, 340] The Australian government developed best practice guidelines and implementation guidebooks for falls prevention tailored specifically to seniors' environments such as hospitals, residential care facilities and community care.[341]

Increasing broad education and awareness programs

Many falls among seniors can be prevented. Appropriate educational programs and awareness campaigns, combined with home-based interventions, have been shown to reduce fall rates.[342] The goals of interventions based on education and awareness are to increase the understanding of the risks and consequences of falling and the benefits of prevention strategies.[155, 337] These types of interventions must consider a variety of audiences, including practitioners who work with seniors, the broader community, seniors'

families, older adults in caregiving roles and seniors themselves.[159] This is particularly important because, in order to reduce the risk for falling, those who work with or care for seniors need to be aware of the factors that contribute to this risk.[337, 343]

Several provinces/territories are initiating falls prevention awareness campaigns to educate seniors on the risks of falls. For example, the Alberta Centre for Injury Control and Research and the Alberta Medical Association launched the Finding Balance campaign in an effort to educate and raise awareness among seniors – and future generations of seniors – about the importance of healthy and safe practices.[344] Additionally, programs such as Alberta's Steady As You Go, that build awareness about risk factors for falls and encourage changes to activities and choices, have been shown to increase activity and give seniors more confidence (see Textbox 4.4 *Steady As You Go*).[337, 345] As noted in Chapter 3, seniors who fall may subsequently develop a fear of falling; addressing this fear should be a part of any education and awareness campaign.[339, 343, 346] The Canadian Falls Prevention Curriculum is an evaluated training course that was designed to build on the knowledge and skills of health care professionals and community leaders working with seniors in the area of falls prevention.[347] Participants learn about current effective programs and resources for screening and assessing falls risk, and how to involve seniors as partners in the development of effective strategies and interventions.[347, 348] Such educational programs should address the diversity of seniors (including various linguistic profiles and literacy levels) by offering programs in multiple languages and formats.

Reaching seniors with awareness and education programs involves using various tools and methods of communication such as information sessions with presentations, question and answer sessions, discussion periods and printed materials (pamphlets, newsletters). Group sessions can also be advantageous, as they encourage socialization, idea sharing and peer support. However, to facilitate participation, group sessions should be held in accessible locations and take into account perceptions that may affect participation levels and motivation for seniors. For example, seniors may hesitate to participate in falls prevention programs, regardless of their age, for fear of being viewed as frail or vulnerable to injury.[337, 351] Initiatives that are effective in encouraging seniors to be actively involved address a range of abilities and adapt to differences in language, culture and social status.[337]

Textbox 4.4 Steady As You Go

The Steady As You Go (SAYGO) program was developed in Alberta to address the risk of falls in relatively healthy and mobile seniors living in the community.[337, 349]

SAYGO consists of two 90-minute sessions delivered by trained seniors who are supported by community health professionals. Participants learn to identify their personal risks for falls such as improper footwear, medication side effects and household hazards, and are encouraged to develop and implement strategies to reduce their risk of falls. Seniors are also taught physical exercises that strengthen their legs and improve balance. One month after their first session, participants meet to discuss their experience in making changes to reduce their risk of falls.[337, 345, 349]

Results of the initial trial of the SAYGO program found seniors were satisfied with the program. An evaluation of the program revealed that the 235 participants of SAYGO reduced eight out of nine personal risk factors identified in the program. Four months after attending the program, SAYGO participants were 30% less likely to fall compared to those who had not taken part in the initiative.[349]

A second SAYGO program was developed for seniors who have reduced energy and mobility. In this initiative, health professionals calculated the risks of falling and provided clients and their families with recommendations on how to reduce falls. Participants were also visited by trained facilitators and encouraged to make necessary changes. Following a one-year evaluation, this second program was also found to reduce the number of frail seniors who experienced falls by 30%.[345, 350]

Supporting healthy behaviours and choices

While education can play a key role in reducing the risk of falls, it is not enough on its own. Exercise programs that are aimed at reducing falls typically incorporate cardiovascular endurance, balance, flexibility and include general activities such as walking, cycling and aerobic movements.[148, 343] Additionally, initiatives and programs aimed at falls prevention should consider individual behaviours and lifestyle, as these can influence the risk and impact of falls among seniors. For example, physical activity can improve balance, mobility and reaction time, increase bone density and, for those who have experienced a fall, it can reduce recovery time.[148, 337] A meta-analysis that examined the effectiveness of various types of exercise programs found that balance-training programs, in particular, positively influenced the prevention of falls, and programs that offered several training sessions a week were more effective than ones with less frequent sessions.[148] While strength and flexibility programs also had health benefits, there was no indication that they directly prevented falls.[352] Broad exercise interventions that encourage maintaining an active lifestyle over the lifecourse can reduce the risk of falling by 15% and the number of falls by 22% in senior adulthood.[148] Commitment to exercise is a lifelong activity and physical activity programs should target younger populations to engage in regular and sustained programs over the lifecourse.[353]

Research from the University of British Columbia's Centre for Hip Health and Mobility reinforces these ideas. The Centre's integrated research programs work to prevent falls and hip fractures with programs that span childhood through to senior adulthood. Programs and research in areas such as early disease detection, education and training of clinicians, interventions for seniors at risk, and research information sharing among practitioners are showing promise in reducing falls and minimizing need for hip replacement.[354] Research shows that fractures can be prevented through appropriate training and exercise over the lifecourse.[354]

Clinical management of chronic and acute illness is necessary in order to assess and manage individual exercise programs and reduce the risk of falls.[148, 343] Falls can be caused by adverse reactions to medications taken to treat chronic illnesses. Therefore medication review and modification, where appropriate, is a critical part of the assessment of the risk of falls and the ability to recover from falls.[148, 337] This medication review requires a greater knowledge of appropriate medication use (e.g. the lowest effective dosage specific to symptoms), common drug interactions and an understanding of the influence of medications on an individual's daily activities – including the ability to walk and use assistive devices and equipment. One approach to addressing drug interactions and associated health risks is to establish and maintain a drug database on common drugs used by seniors. Canada has a mandatory national *Drug Product Database* that includes human pharmaceutical and biological drugs, veterinary drugs and disinfectant products, and also contains product-specific information on drugs approved for use in Canada.[355] This database is a good information resource for health care professionals on various medications. However, information on an individual's current medication use and possible side effects is typically kept by their health care provider and is not available to others in the health community (including other health care providers and pharmacists). Saskatchewan has developed a Pharmaceutical Information Program that is a centralized electronic system of patient medication records (see Textbox 4.5 *Pharmaceutical Information Program*).[356, 357] Adopting a broad drug management system could reduce the risk of adverse health outcomes associated with drug use, such as falls, and increase the capacity of health care professionals to monitor and manage prescriptions and distribution of drugs at pharmacies.

Textbox 4.5 Pharmaceutical Information Program

In 2005, Saskatchewan launched an innovative program designed to allow authorized health care professionals electronic access to the medication records of their patients in order to better manage prescription drugs. The Pharmaceutical Information Program (PIP) gives medical clinicians, such as doctors, nurses and pharmacists, electronic access to a patient's complete medication record to help prevent adverse drug interactions, as well as to check for duplications of therapy, possible prescription drug abuse, and appropriate use of the medications. The PIP is a useful tool for both patients and health providers when sorting through multiple conditions and prescriptions or when many different professionals are involved in a patient's care. It has also been shown to be useful in trauma situations where patients may not be able to speak for themselves.[356, 357]

The program is now available in all Saskatchewan pharmacies, hospital emergency rooms and in over 100 physician offices.[357] Saskatchewan is the first province in Canada to put a system in place that contains information about all drugs prescribed in the province to its residents.[356]

While using assistive devices (AD) can offer seniors a greater sense of freedom, mobility, independence and confidence, their improper use can be unsafe and create a risk of falls.[148] Health care providers need to be fully aware of proper uses and safety precautions associated with AD and ensure this information is shared with all users. Focus group participants of the Health Canada/ Veterans Affairs Canada Falls Prevention Initiative (including individuals, health service providers and AD stakeholders) reported that the use of AD by seniors can be viewed as stigmatizing and symbolic of aging and inevitable decline, impacting an individual's willingness to use such a device.[148] Canada's Mobility Program educates seniors and their families on the positive benefits of using AD, addresses and dispels the stigma associated with these devices and works to provide practical information on usage by combining humour and expert advice. The British Columbia Institute of Technology's AD Anti-Stigma Project implemented among seniors, health care professionals and the media, has reached seniors in the communities of Oliver, British Columbia, Nipawin, Saskatchewan, and Middleton, Nova Scotia. Occupational and physical therapists are using resources developed from this project, and it is being expanded across Canada with workshops and multi-media tours.[358]

Promising research on AD is underway to address a range of environments that seniors may experience while using them. In order to assist people coping with daily life and disabilities, Toronto Rehabilitation has established a laboratory with a massive hydraulic motion platform containing several research modules that simulate inclement weather (such as cold and snow), the interior of a single-storey house, as well as hospital or nursing home environments.[359]

Greater awareness is needed on the benefits and possible risks associated with AD use, as is finding ways to promote education and research in this area.[148, 351] In addition, specific training for those who work directly with individuals using ADs, is required.

Preventing falls with safer environments

Since most falls occur in or near the home, performing a home assessment and then maintaining and/or modifying home environments can be effective in reducing the risk of falls and enhancing overall safety.[148, 337] Home modifications may include added stair rails, improved lighting and renovated washrooms. Some seniors may be physically unable to make the required changes and/or be unable to afford the modification(s) to address home safety issues. There may also be some reluctance to modify homes as a result of perceived stigmas. For example, some seniors may perceive such modifications as revealing their disability, aesthetically unappealing, making a home appear like a hospital or devaluing their home.[360] Programs that support seniors should focus on the benefits of home modifications in preventing falls and encouraging safety, and providing help with renovations and associated costs, where necessary (see the section "*Aging in place of choice*" earlier in this chapter).[337] Occupational therapists report that involving clients in the creation and development stages of modifications,

as well as providing visual examples of completed projects (e.g. photographs of similar projects), have had success in addressing seniors' reluctance to make modifications.[360] Home modifications have had some success in preventing subsequent falls.[361] Much of the success relies on the programs being suited to the needs of seniors and being delivered by a trained health care professional.[362] Home modifications can improve functional ability and increase daily activity performance within the home and these modifications can, therefore, support these seniors to age in place.[363]

Creating safer environments within communities can also address specific factors that cause falls.[337] Community involvement can raise awareness and encourage acceptance and commitment to falls prevention programs.[337] To ensure participation, communities must break down barriers such as ageism and stigmatization of seniors who take part in falls prevention programs. Such programs need to create opportunities to motivate and encourage participation by appealing to a diverse population with varying needs, abilities, accessibilities, cultures and languages.

Preventing driving-related injuries

While some negative public perceptions exist about seniors and driving, it is important to note that age is not a determining factor when it comes to unsafe driving.[364] Assumptions on an individuals' capacity to drive based on age contributes to ageism (see the "*Addressing ageism*" section later in this chapter).[365]

Creating policy about road safety for all drivers is a balance between individual rights and broad public safety. As with other age groups, only a small proportion of seniors drive unsafely. Often an incident involving a senior driver is the result of driving with an illness or functional limitation (including that caused by the use of medication). Most senior drivers assess their own ability to drive safely and restrict their driving as warranted; however – where circumstances dictate – all provincial/territorial jurisdictions require that physicians report medically at-risk drivers to appropriate authorities. While the Canadian Medical Association's *Determining Medical Fitness to Operate Motor Vehicles* provides guidelines for physicians, there are still no clear distinctions on functional limitation

and ability to drive safely.[144, 366] In addition, health care providers may be hesitant to apply the guidelines because of the potential adverse affects on health such as seniors' reduced participation in activities, and isolation that could result from a loss of driving privileges.[366]

Addressing seniors' road safety involves raising awareness about safe driving as well as engaging in further research on clinical practices and public driving policies. The Public Health Agency of Canada collaborated with the Canadian Association of Occupational Therapists and McGill University to develop a *National Blueprint for Injury Prevention in Older Drivers* that is directed at preventing injury by promoting safe driving practices. The *Blueprint* investigates several options for safer driving and injury prevention such as offering refresher driving courses for at-risk drivers and encouraging policy makers to introduce incentives (such as tax credits and conditional licensing) for course participants.[367] A Canadian research program, Driving Research Initiative for Vehicular Safety in the Elderly (Candrive), has also been created to examine ways to improve the safety and health related quality of life of older drivers using a national multi-disciplinary, collaborative research approach to identify, analyze and examine the issues pertaining to the safe operation of vehicles by seniors. Candrive has several objectives,

including developing knowledge (e.g. methods and tools to assess driving fitness) applying the findings into clinical practice and health and transportation policy, and implementing broad public awareness campaigns.[368] Since its initiation in 2002, the Candrive research program has developed partnerships with key seniors groups, as well as government and non-governmental agencies, a collaboration that has resulted in:

- a driving and dementia toolkit, an older driver resource guide for physicians;
- the Canadian Medical Association's *Determining Medical Fitness to Operate Motor Vehicles*;
- a Canadian Consensus Conference on Dementia (driving); and
- numerous national and international workshops on assessing medical fitness to drive.[368]

Promoting safe driving is paramount among all licensed drivers, including seniors.

Mental health

The issue of mental health among seniors is under-addressed, although awareness and research in this area is on the rise. Generally, compared to other age groups, mental health data on seniors is limited, as are the services, evaluated programs and interventions specifically targeted for this population. A key barrier to improvements on this issue is the misconception that mental health problems are an inevitable consequence of aging. As a result, mental health issues among seniors can often go unrecognized, undiagnosed and untreated.[369]

Regardless of age, mental health is important across the lifecourse. Although some people never experience mental health issues, others may develop them as they age or experience them over the lifecourse. Those who have or develop a mental illness can still experience positive mental health and/or well-being if it is identified and addressed in a timely manner. While this can become more difficult with the existence of a co-morbid condition, disability, drug/medication use, or a lack of social and economic support, appropriate interventions, policies and programs can ensure that mental health issues at any age and with any compounding factors can be prevented and/or addressed.

The following discussion highlights four areas that specifically address the mental health of seniors, including:

- promotion of mental health;
- anti-stigma and awareness;
- knowledge translation and exchange; and
- broad mental health strategies.

Each of these areas has either shown evidence of success and could be applied more broadly, or is an area of promise, where further work and investigation is required.

Promotion of mental health

All Canadians can benefit from the promotion of positive mental health and well-being. This is an important aspect of healthy aging that should be supported through all stages of the lifecourse. Further, mental health can be influenced by the socio-economic determinants of health.[370] In particular, social connectedness and healthy behaviours can positively affect and influence an individual's overall well-being and ability to cope with stress and life changes.[370] As a result, promoting mental health also involves initiatives that target the environmental, social, economic, and health and social service-related determinants of healthy aging.

Programs and initiatives that target behaviors as well as other determinants of health have had some success at improving mental health and well-being. For example, a randomized controlled trial in the Netherlands called Healthy and Vital promotes healthy living and physical activity among older Turkish immigrants by combining two-session segments – one on health education and the other involving a physical exercise program.[371] This population, which has been identified as "hard to reach" through universal health promotion activities, had better overall mental health and well-being outcomes as a result of the combined sessions. Positive outcomes were particularly noted among the oldest sub-group.[371]

The Active Living in Vulnerable Elders (ALIVE) Program promotes health and well-being by targeting efforts at low-income seniors living in apartment complexes. ALIVE's purpose is to enhance the quality of life for seniors through exercise classes, health information sessions and newsletters that emphasize independent living approaches. Outcomes have included an increased understanding

of the health benefits of exercise as well as reports from participants that they were "feeling better" and enjoyed the social interactions and comfort of the program.[372]

Healthier communities can also contribute to good mental health through design and other considerations that encourage inclusion of all members regardless of age or ability. Communities with resources that offer opportunities for socializing and provide support within an environment where programs and services are easily accessible are also of benefit (see the section "*Age-friendly communities and universal design*" earlier in this chapter). To be considered age-friendly, communities must consider factors that will affect the mental health and well-being of seniors. To address this issue, the Canadian Coalition on Mental Health has developed and will facilitate the continued development of best practice guidelines for the assessment, treatment and management of key areas of seniors mental health within communities.[373]

Anti-stigma and awareness

Stigma can affect individuals, families and caregivers and occur in a variety of settings. Stigma can have adverse health and social outcomes by impacting an individual's ability to socialize, work and volunteer, as well as to seek help and treatment.[375] Some seniors with mental health disorders experience the double impact of being stigmatized for old age and for having a mental health issue. In addition, the stigma experienced due to a mental illness can result in poorer quality of care, marginalization outside care systems, warehousing (a process of abandoning an individual within an institution), social distancing and isolation, abuse and neglect, as well as unnecessary institutionalization.[374] While there are anti-stigma initiatives in place in Canada around mental health, work to date has primarily been focused on younger adults.[374]

> "**Stigma** results from a process whereby certain individuals and groups are unjustifiably rendered shameful, excluded and discriminated against."[374]

Misconceptions related to certain mental health disorders such as depression, dementia, delirium, substance abuse and personality disorders can lead to further stigmatization. For example, dementia can be mistakenly considered to be a natural part of the aging process.[374] Seniors who have experienced some loss of memory and recognition can be treated by those around them as if they are not present and capable of making choices and decisions. A mental health issue such as substance abuse is often publicly perceived to be a disorder found only among younger populations and, therefore, is often not recognized among seniors.[374]

Increasing awareness of mental health disorders and the importance of good mental health is beneficial to all Canadians. Through awareness, misconceptions about aging and mental illness can be challenged and stigmas can be eradicated. This, in turn, can reduce barriers to treatment and care for seniors experiencing mental health issues. With improved education and awareness, individuals, caregivers, family members and health care professionals can be better equipped to identify and

assess mental health issues in seniors. Furthermore, the dissemination of information on programs and services can help seniors, caregivers and families to identify options for further education, intervention, care and assistance, if required.

In 2009, the Mental Health Commission of Canada launched a ten-year anti-stigma/anti-discrimination initiative called Opening Minds. This initiative is the largest systematic effort to reduce the stigma of mental illness in Canada.[376, 377] Through Opening Minds, several programs have now been launched that address community mental health care education such as: Changing Minds (St. John's), Extra Ordinary People – Centre for Building a Culture of Recovery (Penetanguishene), Brandon University Psychiatric Nursing Program (Brandon), and Stand Up for Mental Health (Vancouver). Each of these programs uses different techniques (such as narrative, comedy and panel presentation) to inform health care professionals about the realities of living with a mental disorder.[378] While these programs are promising, the focus of this initial work is on youth and raising awareness among health care professionals.[376] More work needs to be done to address discrimination/stigma experienced by seniors.

Australia, New Zealand, the United Kingdom and the United States have implemented broad anti-stigma campaigns and strategies from which Canada can learn and build. Programs such as New Zealand's Like Minds, Like Mine and Scotland's See Me: Scotland are examples that use social marketing campaigns to address public attitudes and challenge stigma by encouraging the social participation of people with mental health problems.[379, 380] More work and research are still needed to examine the overall effectiveness of anti-stigma campaigns in reducing stigma, changing views of mental health and illness, and identifying future directions for research.[381] Anti-stigma campaigns have had limited success due to insufficient support and evaluation in campaign development and follow-through.[375] As well, existing campaigns tend to target whole populations rather than focusing on age-specific issues. While seniors' mental health issues can be addressed in a broader context, some consideration should be given to age-specific situations.

Knowledge translation and exchange

The Canadian Coalition for Seniors' Mental Health (CCSMH) works with partners across the country to facilitate and advocate for initiatives that enhance and promote seniors' mental health. The CCSMH also established national guidelines on the prevention, assessment, treatment and management of seniors' mental health issues.[207, 384] In 2005, the CCSMH's National Guidelines for Seniors' Mental Health Project was created to develop evidence-based recommendations in four key areas: delirium, depression, mental health issues in long-term care homes, and suicide risk and prevention. The resulting guidelines were the first national interdisciplinary guidelines created to address these issues.[207, 384] The CCSMH has also since created guides for seniors and families based on the national guidelines.[385]

Knowledge translation is defined as a dynamic and iterative process that includes synthesis, dissemination, exchange and application of knowledge to improve health, as well as to provide more effective health services and delivery.[382, 383]

Following the development of the CCSMH guidelines, seven pilot projects were established across Canada to implement them in a variety of settings. For example, a *Late Life Suicide Prevention Toolkit* was developed for health care providers and educators in health education programs at universities and colleges that provides health care providers with interactive, case-based DVDs, the CCSMH *National Guideline for the Assessment of Suicide Risk and Prevention of Suicide*, a clinician pocket card, as well as materials for educators.[386, 387] In addition, the CCSMH developed *Suicide Prevention among Older Adults: a guide for family members* to assist seniors, families and others to recognize suicide risk factors and warning signs and methods to address these risks. This guide shows promise in translating knowledge regarding suicide risk and prevention among seniors.[388] Guides for seniors and family members were also created to address the topics of depression, delirium and mental health issues in long-term care homes.[384]

Currently, the majority (estimated to be 80% to 90%) of long-term care residents have a cognitive and/or mental health disorder.[206, 207] In addition, nearly half of residents have a diagnosis and/or symptoms of depression with associated negative health, function, social and/or quality of life issues that need to be considered in care facilities.[221] The proportion of long-term care residents with mental health disorders may be even underestimated given the challenges in diagnosing seniors, particularly those in care facilities. However, recent studies (2010) have found that standardized clinical assessment instruments provide better information to identify seniors at risk of poorer health outcomes as a result of depression or symptoms of depression by focusing on specific symptoms and behaviours. The instruments can also monitor the effectiveness of interventions put into place.[221] For example, in Whitehorse, Yukon, assessment instruments for depression symptoms have been used by health care providers to identify and understand patients with depression whose needs may have otherwise gone undetected. Through this process, providers are better able to deliver more focused and comprehensive care plans. Staff report results in reducing residents' depressive symptoms and improving factors that contribute to the quality of their life.[389]

The state of health found among seniors in residential care requires action such as adjustments to the number and skills of staff, support services and facility environment resources required to care for this vulnerable population. The current lack of sufficient resources has resulted in adverse outcomes in health and well-being such as overmedication, misuse of restraint tactics, staff stress and turnover, and the warehousing of individuals.[206] By sharing information on mental health disorders with a range of health care professionals and the general public, a better awareness and understanding of these disorders can be established, and steps to better manage and meet the needs of facility staff, residents and family members can be identified.

The National Initiative for the Care of the Elderly (NICE) is an example of an initiative that recognized the importance of using knowledge exchange networks to disseminate research into practice. The NICE networks have developed a training curriculum component that brings together those who work in each knowledge area

to share information across professions such as medicine, nursing, rehabilitation and social work who work with seniors. NICE operates through a network of Theme Teams and Committees dedicated to improving the care of seniors in Canada and abroad. It covers several key areas of seniors' health, including caregiving, dementia care, elder abuse, end-of-life issues, mental health, ethnicity and aging (see Textbox 4.7 *The NICE Elder Abuse Team: Knowledge to Action Project* later in this chapter).[390-392]

Translating research into practice is also a goal of the Canadian Dementia Knowledge Translation Network (CDKTN). The purpose of CDKTN is to facilitate and accelerate knowledge translation through a national network of researchers and user communities focused on Alzheimer's disease and related dementias (ADRD). The goal is to facilitate and accelerate knowledge translation through the network in order to build capacity, as well as address services gaps in ADRD diagnosis, treatment and care.[393, 394] This initiative is also working to build and develop long-term national and international collaboration.[395, 396] Currently, CDKTN membership includes over 200 researchers and care providers across Canada. It covers three key theme areas, including: education and training in knowledge translation; Canadian dementia resource and knowledge exchange; and patient/caregiver centered knowledge translation. The three areas integrate to create outcomes such as increased patient and caregiver access to information about dementia, and increased uptake and application of research findings on dementia care.[397]

A pan-Canadian initiative to support research and share information about seniors' mental health issues, causes, treatments and interventions would be beneficial. It would provide an opportunity for collaboration within multiple sectors and among various stakeholders across Canada and, quite possibly, with international partners. The Mental Health Commission of Canada has initiated a Knowledge Exchange Centre to provide access to evidence-based information about mental health and mental illness and to enable people across the country to become engaged. Within this Centre, knowledge exchange networks focused on the mental health of seniors could advance research and development to better serve this population.

Broad mental health strategies

Mental health strategies and policies need to be flexible enough to respond to diverse needs.[398] Some current national mental health strategies currently exist that focus on the specific mental health issues of certain subpopulations of seniors. For example, Veterans Affairs Canada's *Mental Health Strategy* provides services based across four areas – service continuum, capacity building, leadership and partnerships – and emphasizes a "whole person" approach, while also building capacity to assess, support and treat those living with post-traumatic stress disorder.[399]

The Mental Health Commission of Canada (MHCC) has developed a framework, *Toward Recovery and Well-Being: A Framework for a Mental Health Strategy in Canada*, to address the current and future mental health needs of all Canadians, including seniors. The strategy will work to enable everyone living in Canada to have the opportunity to achieve the best possible mental health and well-being.[398] To build the strategy, the MHCC has established eight advisory committees to advise and engage stakeholders, including one focused specifically on seniors' mental health. This committee is working to ensure that a lifecourse perspective, as well as the mental health of seniors, is included in the work and initiatives of the Commission. Committee work includes identifying strategies to specifically target seniors' mental health, including anti-stigma/anti-discrimination initiatives.[373, 400] Similarly, a First Nations, Inuit and Métis Advisory Committee is concerned with promoting the overall mental health of Canada's Aboriginal peoples, including seniors. Overtime, it aims to meet needs while ensuring that its structure reflects cultural beliefs and increases knowledge and understanding of cultural safety, social justice, ethical accountability and diversity competency. As well, it is promoting and developing Indigenous-determined ethical guidelines in the delivery of front line mental health and addictions programming in Aboriginal communities.[401]

Another initiative with national implications is the Seniors' Mental Health Policy Lens (SMHPL), which has been endorsed by the Seniors' Advisory Committee of MHCC. SMHPL is an instrument that was created to strengthen the capacity of government and non-governmental organizations to develop policy, legislation, programs and services that promote and support the mental health of seniors. Developed by the British Columbia Psychogeriatric Association, the SMHPL is also an analytical tool for identifying and predicting unintended direct or indirect negative effects of current and planned efforts on seniors' mental health. The tool achieves this by considering a range of factors such as income and accessibility of services.[402] The Association has also developed guidelines to support the mental health needs of seniors who are dealing with cancer care. These guidelines provide a unique perspective of the intersection between chronic disease and mental health, and provide practical information for caregivers.[403]

Preventing abuse and neglect of seniors

As reported in Chapter 3, abuse or neglect affects between 4% and 10% of seniors in Canada.[283] Only recently considered an issue of global concern, abuse and neglect still remains hidden and under-reported.[274, 287, 404] While the data on the abuse and neglect of seniors is limited, the fact that it occurs at all is unacceptable; therefore, further addressing this issue through interventions, laws and policies is necessary for the protection and health of all Canadian seniors. The following discussion highlights three key areas that have shown evidence of success or promise in identifying and reducing abuse and neglect of seniors:

- laws and legislation;
- awareness, education and training; and,
- strong and sustainable communities.

Laws and legislation

In Canada, criminal, family violence, adult protection and adult guardianship laws can help protect seniors from abuse and neglect. While the criminal law applies across Canada, civil laws vary by province/territory and may be applied differently depending on the mental capacity of the adult being abused and neglected.

Forms of abuse such as fraud, assault, uttering verbal threats and criminal harassment are considered crimes under the *Criminal Code of Canada*.[297] In addition, violation of provincial laws that protect seniors related to guardianship, health law, substitute decision-making and succession legislation, such as abuse of power of attorney or contravention of trustee acts, are offences within provincial/territorial jurisdiction.

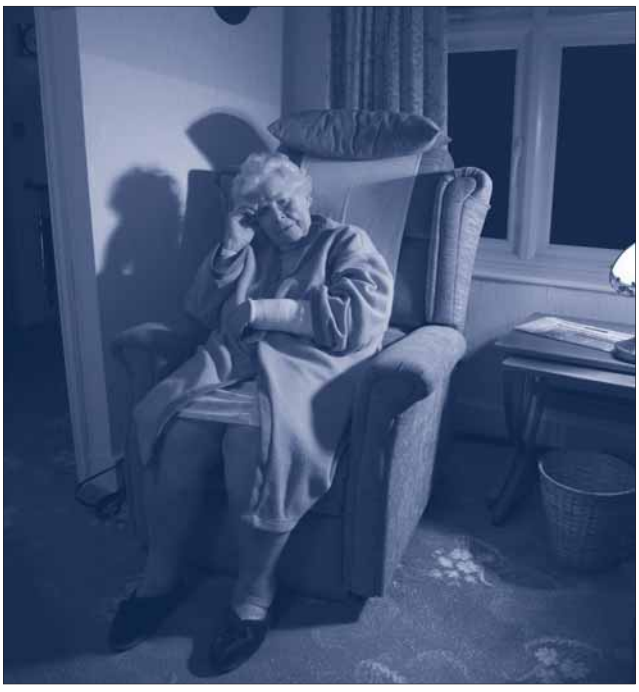
Many provinces and territories have protection and guardianship laws that provide additional civil measures to protect older adult victims of abuse as well as a range of social service interventions to protect older adults in cases of physical or mental deterioration.[297, 405-412] Several jurisdictions also have legislation relating to institutional abuse to respond to reports of abuse of persons in care.[297, 413-417] In addition, most jurisdictions have family violence legislation that provides civil protections to victims of family violence, including emergency intervention orders.[297, 418-426] In Quebec, human rights legislation may also help protect adults in situations of abuse by specifying the rights of dependent adults.[427]

Balancing protection with the need to respect seniors' independence is an issue for Canadian health care and community service workers. While laws are in place to protect Canadians, sometimes there is a lack of awareness of and a reluctance to pursue action under these laws. Addressing abuse and neglect raises difficult questions and poses legal and ethical dilemmas for health care and community service providers. Many lack the necessary training and information and are ill equipped to appropriately identify signs of abuse and neglect. Also, it can be challenging to simultaneously adhere to the practice guidelines that are specific to their discipline, the provincial laws (with respect to vulnerable seniors) and the rules governing their place of employment.[428] In many cases, seniors who experience abuse from family members wish the abuse would stop but fear isolation and loss of family relationships. As such, incidents of abuse and neglect within this demographic often go unreported.[429] This may also be due to a lack of understanding about what constitutes abuse and neglect of seniors and the associated laws that criminalize abusive behaviour.[429, 430]

Awareness, education and training

Preventing abuse and neglect of seniors involves raising awareness and changing attitudes. Prevention strategies, practices and programs that address abuse and neglect are – for the most part – unevaluated for effectiveness. As broad awareness of abuse and neglect of seniors increases, it is expected that prevention programs will be further developed, available data will increase and comprehensive evaluations will take place.[283] Therefore, increasing awareness and investing in education programs about abuse and neglect of seniors will have important benefits:

- to increase the capacity of social and health professionals who work directly with seniors to identify abuse and find appropriate supports;



- to inform potential victims of their rights and the actions they can take to protect themselves; and,
- to raise awareness among seniors, their families, neighbours and communities about the issue and existing supports that are available to help seniors and caregivers deal with the situation.

A key part of any abuse strategy is to increase the capacity of social and health care providers to identify signs of abuse, to work with affected individuals and their families and to recommend appropriate action/support to address the problem. The World Health Organization recommends training primary care workers on what to watch for and how to play an active role in the prevention of abuse and neglect, given that a systematic review revealed that most professionals underestimate the prevalence of some abuse and neglect of seniors.[404, 431] As well, it was reported that only a quarter of American physicians are aware of the American Medical Association guidelines on elder abuse. Those health care professionals who have had some training on this issue are most likely to detect abuse and to recommend appropriate interventions.[431] Similarly, studies in the United Kingdom showed that most general practitioners report that education and training would be beneficial to them in identifying and managing cases of abuse and neglect of seniors.[432] In Canada, some seniors' outreach workers reported that abuse and neglect prevention training increased their knowledge and gave them the tools for identification of abuse and neglect. The training also reviewed guidelines for reporting suspected cases as well as addressing health and social outcomes of abuse and reporting abuse.[283] While it was considered to be useful, participants reported that it would be beneficial if the training programs covered a range of abuse issues (such as financial, physical, emotional) and were offered to various health and social care providers from fields such as medicine, social work, policing and criminal justice, religion, education and policy/decision-making.[283]

Broad public education and awareness practices that address family violence and child abuse have had some success and could be applied to abuse and neglect prevention for seniors (see Textbox 4.6 *Federal Elder Abuse Initiative*).[433] Fundamental to the success of education and awareness programs is providing information to reduce stereotyping and age-based assumptions (see the section "*Addressing ageism*" later in this chapter), as well as targeting a range of populations. Programs that specifically target seniors are important for two reasons: to help seniors acknowledge their own situation as well as to help recognize situations of abuse among peers. Seniors' programs need to provide information, break down barriers of stigma and blame, as well as identify positive opportunities for seniors to be active and participate in their communities (e.g. as mentors and leaders).[434] In addition, given the diversity of Canada's senior population, education programs should discuss abuse and neglect in culturally appropriate language and context.[283]

Since caregiving roles are often filled by family members and others in relationships of trust, targeting family members in terms of education and awareness is an important prevention initiative. This can help to identify acceptable and unacceptable behaviours toward seniors, as well as assist family members and others in addressing their own stress, health and well-being. Family dynamics, including history of domestic violence, substance/alcohol abuse and psychopathology of the caregiver are some of the issues that need to be examined when determining family caregivers at risk to abuse. Viewing abuse and neglect of seniors as a societal issue, not just a private family matter, has the potential to raise the urgency of the problem of abuse and neglect in the context of family caregiving, and lay the foundations for better care and for social change. The Families Commission of New Zealand recommends using an ecological framework that

Textbox 4.6 Federal Elder Abuse Initiative

In 2008, the Government of Canada announced a $13 million investment over three years to raise awareness of elder abuse among seniors, their families and professional groups through the Federal Elder Abuse Initiative (FEAI). The initiative is led by Human Resources and Skills Development Canada (HRSDC), in partnership with the Public Health Agency of Canada (PHAC), Justice Canada and the Royal Canadian Mounted Police (RCMP). The initiative includes a national awareness campaign, as well as measures by a number of departments whose programs and activities reach out to seniors and those who work with them.[433, 435]

The four key federal partners of the FEAI further the development of elder abuse awareness. PHAC is mandated to carry out public health activities for health practitioners and other key stakeholders. Justice Canada funds provincial and territorial public legal education and information associations to produce regional information on elder abuse and; produces national information materials for seniors to raise awareness of the risk of fraud.[436] HRSDC prepares information materials that allow professional associations to provide elder abuse awareness information sessions for their members.[433] The RCMP works with other agencies and communities to develop prevention and awareness information, tools and resources for both the public and police to better recognize and respond to elder abuse.[437]

Elder Abuse – It's Time to Face the Reality, is the FEAI public awareness advertising campaign, launched on June 15, 2009. The campaign was developed to coincide with the United Nations International Day of Older Persons on October 1, 2009 (using television, internet and magazine advertisements) and helps Canadians recognize the signs and symptoms of elder abuse while providing important information on the help and support that is available.[435, 438]

Special one-time funding was offered under the New Horizons for Seniors Program, a program that funds professional associations to adapt, customize and disseminate elder abuse material for use throughout their organizations in order to assist frontline workers in the legal, social services and health sectors to recognize and respond to situations of elder abuse. Professional associations must be Canadian, not-for-profit and reach out to members located in at least five provinces/territories to be eligible for funding.[433, 438]

The projects funded under the FEAI include:

- The Canadian Association of Occupational Therapists (CAOT), through the Elder Abuse: A Collaborative Approach to Awareness and Education project, will develop a guideline document and web-based tutorial to educate occupational therapists on abuse indicators, prevention, assessment, intervention protocols, relevant legislation, regulations and resources. CAOT recognizes that occupational therapists are often in a position to identify signs of elder abuse and is committed to providing them with the information necessary to provide an appropriate intervention. These resources will be introduced at the CAOT national annual conference in 2011.[439, 440]
- The Canadian Dental Hygienists Association (CDHA), through the Dental Hygienists Recognizing Elder Abuse and Neglect project, will create a professional development program for dental hygienists on elder abuse. The program will include an online course, interactive web-based seminars and print resources to raise awareness of elder abuse among CDHA members and to enhance hygienists' capacity to respond to situations of abuse.[439]
- The Canadian Nurses' Association, through the Promoting the Awareness of Elder Abuse in Long-Term Care Home project, will develop education sessions and complementary resources on elder abuse prevention, delivering them to service providers in five long-term care homes across Canada to increase their awareness and understanding of elder abuse issues.[439]
- The Fédération des associations de juristes d'expression française, through the Projet de sensibilisation des juristes d'expression française, will offer tailored elder abuse awareness

information sessions to legal profession members in seven provinces across Canada (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia) to increase awareness of elder abuse and strengthen services provided to seniors.[439]

- The Fédération des locataires d'habitation à loyer modique du Québec through the Vieillir en paix dans nos HLM will educate and train volunteers, tenants, managers and social and community workers in its 300 resident associations about the prevention and detection of elder abuse.[439]
- The Fondation du Centre de santé et de services sociaux, through the Contrer la maltraitance envers les aînés, une responsabilité collective will develop and deliver elder abuse awareness, detection and intervention workshops to inform 700 workers, as well as volunteers from outside of the health and social services network in order to increase elder abuse awareness among primary care service providers.[439]

encompasses the individual, the family, the institutional setting, the local community and the broader society in which the caregiver and care receiver live.[441] Broad caregiver assessments have been established as a best practice for overcoming barriers to promoting and sustaining caregiver health, however more research is required to better meet the needs of care recipients and to better support their caregivers.[442, 443]

Internationally, there is growing recognition that education and awareness around abuse and neglect prevention will require the creation of knowledge and information networks in order to identify current and emerging issues, to develop strategies and frameworks and to share information and best practices. Canada has made progress in creating networks for abuse and neglect prevention with the Canadian Network for the Prevention of Elder Abuse, as well as provincial networks such as the Ontario Network for the Prevention of Elder Abuse, the Manitoba Network for the Prevention of Abuse of Older Adults and the B.C. Community Response Networks.[444-446]

Many health care professionals working in institutional settings (e.g. long-term care facilities) report witnessing some form of abuse and neglect in institutions at some point during their careers; however there is little information on best practices for preventing this abuse.[450] The reasons for this abuse may include residents' level of cognitive impairment which exceeds or tests caretakers skills and capacity to cope, a perceived loss of respect and rights of individuals who are disabled and incapacitated, the disconnect between institutions and the broader external community, and systematic problems (e.g. inadequate staffing, misunderstanding of duties, financial constraints and fear of reprisals for residents who report abuse).[450] Addressing abuse and neglect of seniors must recognize the broader systemic issues of specific staff training and skills, ageism and resource allocation to care for seniors in regulated/unregulated care facilities.[451] Prevention needs to focus on overcoming these challenges.

Training on appropriate care and abuse and neglect prevention can build capacity to help ensure that seniors in care are protected from harm and that they live in safe and respectful environments. Approaches used to prevent abuse and neglect in institutional settings include developing and executing a variety of education and training initiatives to help staff identify abuse and increase the knowledge and skills they needed to prevent it.[450, 451] Little is known, however, about the effectiveness of training for health care professionals working within institutions; more work is necessary to better understand abuse and neglect of seniors in these settings.[431]

Strong and sustainable communities

Coordinated community-based efforts for addressing abuse and neglect have been shown to be as, or more promising, than sporadic and uncoordinated efforts. A coordinated community development approach should map community resources, develop common understandings of abuse and build communication and service networks. This process is collaborative and can lead to the development of inter-agency protocols and coordinated prevention and intervention approaches. Sectors such as legal, social,

Textbox 4.7 The NICE Elder Abuse Team: Knowledge to Action project

The National Initiative for the Care of the Elderly (NICE) is an international network of researchers and practitioners committed to improving care for seniors. NICE recently launched a three-year Elder Abuse Team: Knowledge to Action project through funding received from the New Horizons for Seniors Program at HRSDC. The project's main goal is to address issues of awareness, detection, management and prevention of elder abuse through increased use of evidence-based research, the development and dissemination of tools, and awareness promotion within the community.[447]

The project is comprised of three main components: tool development, tool dissemination, and leadership and advocacy for seniors. The first component consists of the identification/development of tools for a bilingual toolkit for a wide variety of responders including social workers, health care providers, caregivers and the police. The toolkit is designed to help with the detection, intervention and prevention of elder abuse.[447, 448]

Once developed, the tools will be disseminated and shared across Canada via training events in Vancouver, Regina, Toronto, Sherbrooke and Halifax. The team will be exploring how best to make tools and training available to other communities through the use of various affordable web-based technologies.[447, 449]

The third component of the project fosters leadership and community awareness by engaging seniors in all stages and activities of the project, including active participation in the design of the toolkit and its dissemination within communities. As well, the project's five Regional Coordinators are working to educate seniors, social workers, health professionals, caregivers and the police, and to raise awareness for the detection, management and prevention of elder abuse.[447, 448]

The Elder Abuse Team: Knowledge to Action project is in the process of being evaluated as part of the funding arrangement with the New Horizons for Seniors Program. The project has promising potential as an elder abuse education and prevention initiative, and warrants further research and analysis.

education and health care services need to partner to prevent abuse and neglect, protect and support seniors who may be at risk.[283]

Seniors themselves have a role to play in their communities as leaders, as well as advocates for healthy aging and abuse and neglect prevention. They can become involved by learning about their rights and how to talk to other seniors about challenging issues such as abuse and neglect.[452, 453] There are also steps seniors can take to protect themselves such as staying active and socially connected.[454] They can also ensure that their financial transactions take place automatically through financial institutions (and can be monitored accordingly) and that matters concerning power of attorney and property are addressed by people of trust.[452] Identifying people of trust can be difficult, however, and eventually problematic if the position of trust becomes one of abuse. Active steps can be taken to address an abusive situation such as telling someone and understanding that abuse can happen at any age to anyone, and that abuse is a violation of rights that is not the fault of the victim.[454] Interventions must include roles for victims in the community. Building capacity at the community level is important to address the problem of abuse and neglect of seniors.

Social connectedness

There is a direct relationship between social connectedness and well-being; having family, friends and feeling a sense of belonging to a community contributes to good health.[12, 177] The following discussion highlights three key areas of action that contribute to encouraging and improving social connectedness:

- addressing social isolation;
- volunteering; and
- addressing ageism.

Each of these areas has either shown evidence of success and could be applied more broadly, or is an area of promise where more work and investigation is required.

Addressing social isolation

For some seniors, social engagement and minimizing marginalization can depend on access to community facilities, transportation and affordable activities, as well as on having meaningful roles in society.[12, 177] Seniors who live in rural and remote areas may be at risk for social isolation because of their physical location. Seniors caring for other seniors can also be at greater risk for isolation due to responsibilities that may leave them little time or energy to engage in outside activities. Immigrants who come to Canada as seniors may also experience heightened isolation as they try to adapt to their new community, especially if they experience language barriers that create difficulty in accessing services and being socially engaged.[7]

Addressing social isolation is important at all stages of life, as social patterns are developed and maintained throughout the lifecourse. The cumulative impacts of isolation can be greater, however, as people age and as opportunities for social engagement become less frequent due to factors such as poor health, loss of loved ones, loss of roles/responsibilities and decrease in income.[455-458] Achieving greater social connectedness for isolated seniors requires supportive environments that offer a range of options for engagement, meaningful roles and respect within the community.[12] More research will be needed about the quality of community-based support networks, as well as the perception and acceptance of these support networks among seniors at greatest risk.[459]

There are a variety of targeted interventions that address social isolation among seniors. These include one-on-one support and educational group sessions.[460] A systematic review of the effectiveness of these interventions found that group interventions that covered a range of topics and encouraged expression were successful over time.[461] In addition to targeted interventions, social engagement can be encouraged through programs that foster integration within the community. In Canada, the New Horizons for Seniors Program (NHSP) funds initiatives to improve the quality of life for seniors through participation in active living and social activities.[462] NHSP also supports initiatives that promote respect by enabling seniors to share their knowledge and experiences, and raising awareness of issues facing seniors such as abuse (see Textbox 4.8 *New Horizons for Seniors Program*).[462]

Given the potential adverse impacts of social isolation on the health of seniors, future programs should consider supporting transportation initiatives for seniors, increasing service delivery and including service to remote areas.[460] It is important to increase community awareness of services for seniors. As well, developing outreach strategies for programs and services for seniors will require identifying which populations are underutilizing services and targeting attention to those seniors (and their networks) in program marketing plans.[460] The age-friendly communities project (see the section "*Age-friendly communities and universal design*" earlier in this chapter) seeks to engage seniors and their communities in making these communities healthier and safer by creating policies, services and structures designed to support and enable active aging and continued participation in society.

Studies have examined interventions for effectiveness in reducing social isolation among seniors; however, the impact of these interventions – having measureable health and social outcomes – has been limited. Much more research is needed on developing and evaluating interventions that can be effective in this area.

Textbox 4.8 New Horizons for Seniors Program

The New Horizons for Seniors Program (NHSP), provides funding to non-profit organizations in Canada that work to help improve the quality of life for seniors.[463] With an annual budget of $28.1 million, the program offers three types of funding: Community Participation and Leadership Funding, Capital Assistance Funding, and Elder Abuse Awareness Funding.[462, 463]

Through Community Participation and Leadership Funding, seniors are encouraged to remain actively involved in ongoing activities in their community. Projects are initiated and led by seniors and include a variety of activities such as: sharing traditions, skills, experience and wisdom to support their community; teaching peers new skills; and mentoring youth.[462, 464]

Capital Assistance Funding helps non-profit organizations delivering community programs and activities for seniors to pay for building repairs or replace old equipment. Eligible organizations encourage seniors' continued participation within their communities.[462, 464]

Elder Abuse Awareness Funding helps organizations develop education and awareness campaigns that contribute to preventing the abuse of older adults. The goal of the Elder Abuse Awareness Fund is to improve the safety and quality of life of Canadian seniors.[462, 464]

Since 2004, the NHSP has funded over 6,000 projects across Canada. This includes the Bridging the Generations Project in Melfort, Saskatchewan, which brought elementary students from Melfort's Broadway Community School together with seniors through various activities including quilt making and a school snack program.[465] Another initiative, the Let's Talk About Abuse project in Trois Rivières, Quebec, succeeded in educating and informing nearly 600 people about elder abuse and the resources available to victims and witnesses.[466]

In early 2008, a formative evaluation of the NHSP was conducted, involving review of documents and administrative data, a review of a survey of NHSP applicants (funded and unfunded), and interviews with key informants. The grant-based design and use of Regional Review Committees in reviewing applications were identified as the program's main strengths. The program's flexibility allows it to be responsive to unique community needs in different regions and, for the most part, fills a distinct niche in the promotion of seniors' involvement in their community.[467]

The evaluation also found that promotional efforts through regional communications are effective, as a greater portion of applications have met eligibility requirements. However, applicants reported dissatisfaction with the increase in time required for application reviews which had increased with the number of eligible applications. Recommendations from the evaluation include the implementation of measures to reduce review times as well to provide detailed explanations for projects that do not receive funding.[467]

In the budget 2010, a commitment of $10 million over two years increased funding continue work of NHSP and to support volunteering among seniors, intergenerational community participation and raising awareness of financial abuse of seniors.[468-470]

Volunteering

Chapter 3 highlighted positive health outcomes associated with volunteering, especially during the senior years.[255] Additionally, many seniors rely on informal care networks that are often run by volunteers. Both help to underline the necessity of ensuring that Canada has a strong volunteer base in the future. Generally, seniors volunteer because they have available time as well as experience and skills to offer their communities.[471, 472]

Recent trends indicate that seniors are the least likely age cohort to volunteer; however, those seniors who volunteer commit the highest average number of hours to volunteering.[471] As the population changes, so do volunteer patterns.

Current seniors are motivated to volunteer in different ways than their predecessors. While previous generations of seniors were more motivated to volunteer through religious-based organizations, this is less of a primary

driver for today's seniors. Many are interested in applying their work experience in a volunteer situation and/or are looking for incentives such as learning new information or a new skill, participating in a meaningful experience and meeting new people. Those who have had a positive volunteer experience at a younger age are more likely to continue to volunteer during senior adulthood.[472] As well, seniors' volunteering practices are influenced by cultural factors. For example, the Iqaluit Roundtable (one of nine roundtables held by National Seniors Council on positive and active aging and volunteering in 2009) identified that the Inuit culture does not recognize the term volunteering; however a similar concept is the practice of "people helping people." An important focus for Inuit seniors helping people is intergenerational communications and educating youth on Inuit traditions.[471]

Tapping into the recently retired population provides an opportunity to engage seniors in volunteering; however, organizations need to be flexible and allow volunteers the chance to pursue other activities over and above volunteering.[253] Younger seniors (those aged 65 to 75) who are still involved in work/post-work activities or external activities may be too busy to volunteer.[472] In addition, volunteers are interested in volunteer opportunities where they see they are making a difference. Over-use of volunteers can be a problem as it can limit incentives and positive outcomes associated with volunteering. Volunteer organizations must also take into consideration that seniors often have to limit volunteer activities for health reasons.[253] Employers can establish volunteering practices through supporting pre-retirement volunteering by offering flex-time opportunities at the workplace.[472] Tax incentives could provide recognition for contributions as well as reimburse volunteers for hidden costs associated with volunteering.[471]

Overall, seniors are less likely to volunteer than other age groups; however, those seniors who do volunteer donate more volunteer hours annually than any other age group.[471] The value of unpaid assistance provided by seniors is significant.[7] They can adopt key roles in the community and, in fact, many voluntary organizations would not function without the contributions made by seniors.[473] A sense of belonging to the community is strongly associated with involvement in voluntary organizations or associations – if seniors feel attachment to their community, it is more likely the community will be a sustainable age-friendly place to live.[73]

Canada needs to develop a greater understanding of its senior volunteers, what motivates them to become involved, how to recruit and maintain them, as well as how to recognize their unpaid work. Canada also needs to adopt a volunteer strategy that recognizes the dynamic volunteer environment, addresses emerging challenges and promotes the benefits of being a recipient or donor of volunteer activities. The strategy may consist of a number of components:

- identifying new senior volunteer opportunities that rely on higher levels of skill and experience;
- communicating the benefits of volunteering to individuals, communities and seniors' organizations;
- adapting requirements to suit the changing demographic of volunteers so as not to rely repeatedly on the same individuals and/or offer the same outcomes;
- developing a shared understanding of volunteerism;
- creating meaningful incentives for volunteers such as opportunities to learn something new;
- preparing for unexpected conditions and emergency situations;
- including volunteers in the planning and design of volunteer positions; and
- facilitating opportunities for volunteer coordination within funded program grants.[472]

Addressing ageism

One factor often impeding seniors in participating and contributing to society is ageism.[274, 475] Ageism involves assumptions about older persons based on negative stereotypes and society's preoccupation with youth and looking young.[80]

> The Ontario Human Rights commission refers to **ageism** as: i) a socially constructed way of thinking about older persons based on negative attitudes and stereotypes about aging; and ii) structuring society based on an assumption that everyone is young and therefore not addressing the needs of older people.[474] The Senate Committee on Aging outlines that ageism is discrimination based on age that assumes an individual's capacity, denies an individual's decision-making, ignores individual wishes, and treats an adult as a child.[274]

Changing negative views of aging is critical to creating conditions for good health and well-being among seniors. The goal of the *Madrid International Plan of Action on Ageing* (2002) was to establish positive ways to portray and view aging.[274] A component of this plan is to empower seniors to fully and effectively participate in the economic, political and social lives of their communities through income-generating and voluntary contributions.[80] However, empowerment does not take place in a single moment and must be sustained over time. Societies must strive to ensure that seniors are recognized and appreciated.[80, 476] The foundation for valuing aging should be laid early and be adaptive to diversities within the population.[80]

Valuing aging starts with changing values and attitudes. Intergenerational initiatives between seniors and youth can promote a better image of aging and can be rewarding for everyone involved.[274] Efforts to address ageism should include a component on issues of caregiving and exclusion and discrimination in an institutional setting. Supporting caregiving and placing a positive value on aging and care for seniors will ensure progress is made toward combating ageism.

To address ageism, the significant contributions made to society by Canadian seniors must be acknowledged.[7] Seniors' paid and unpaid work contribute to families, communities and the Canadian economy.[7, 274] Many seniors provide care to spouses, children, grandchildren, friends and neighbours, in addition to donating their time as volunteers.[7] With the growth in population of those aged 65 years and older, this important contribution can be expected to increase.[7]

Some countries have initiated anti-ageism campaigns, such as the Scottish government's See the Person, Not the Age, which has worked within communities and the voluntary sector to break down age-related stereotypes.[477] While Canada does not have an anti-ageism strategy, it has invested in the development of age-friendly communities that promote social connectedness and respect for seniors, which are key to combating ageism in society (see the section "*Age-friendly communities and universal design*" earlier in this chapter).[83] Some provinces/territories such as Quebec, Nova Scotia and Newfoundland and Labrador are working toward addressing ageism with positive aging campaigns.[478-481] In June 2010, the Government of Canada introduced a Bill to establish an annual National Seniors Day in recognition of the contributions seniors make to Canadian society.[482]

In First Nations, Inuit and Métis communities, the term Elder is a title given to individuals who – in recognition of their knowledge, wisdom, experience and/or expertise – enhance the quality of community life and provide guidance to community members through counselling and other activities. Most Elders are seniors or older members of the community, but age is not necessarily a defining factor. To be an Elder requires earning respect through actions and words. As with many seniors, Elders have addressed many obstacles over their lifecourse and hold invaluable knowledge and skills in areas such as language, culture and traditions that they can transfer to others while bringing balance to their communities.[483, 484] Initiatives such as the Canada Council for the Arts' Elder/Youth Legacy Program recognize the important role of Elders in Aboriginal culture. The program provides support for Aboriginal Elders to teach youth from their communities about traditional arts with the goal of continuing the legacy of artistic practices within their communities.[485] Similar initiatives designed to recognize and value the

knowledge and expertise of seniors in the general population could help create more positive views of seniors and aging in communities across the country and foster respect between generations. Iqaluit Roundtable found that Elders identified that intergenerational teachings of Inuit traditions was a primary goal for Elders helping others.[471]

Healthy living practices

In May 2005, the Federal, Provincial and Territorial Ministers Responsible for Seniors endorsed *Healthy Ageing in Canada: A New Vision, A Vital Investment*. The report focuses on five priority areas for action: social connectedness, physical activity, healthy eating, falls prevention, and tobacco control.[7, 12] Although two of the priority areas (falls prevention and social connectedness) are discussed in other sections of this chapter, all areas are considered interconnected, and programs and interventions that address each priority area can have an impact on others. For example, participating in regular physical activity can reduce the risk of falling and of developing certain health conditions, and can also increase social interaction.

Healthy living, at a population level, refers to the practices of population groups that are consistent with supporting, improving, maintaining and/or enhancing health. At an individual level, healthy living is the practice of health enhancing personal behaviours. It implies the physical, mental and spiritual capacity to make healthy choices.[486, 487]

Healthy living practices are about creating conditions for individuals to make choices and engage in behaviours that support healthy aging, such as staying physically active and eating well, and to avoid choices and behaviours that are detrimental to health, such as smoking and excessive drinking. Although these behaviours are based on individual decisions, it is important to note that these decisions are influenced by physical, social and economic factors experienced over the lifecourse.

This section highlights six areas where programs and interventions are making progress in creating conditions for healthy aging:

- providing community support and infrastructure;
- raising awareness about physical activity;
- encouraging healthy eating;
- addressing smoking, alcohol and drug use;
- ensuring health literacy for seniors; and
- supporting opportunities for lifelong learning.

Each of these areas has either shown evidence of success and could be applied more broadly, or is an area of promise where further work and investigation is required.

Providing community support and infrastructure

Seniors who have been involved in their community, and/or who have been physically active over the lifecourse, generally continue these practices as they age. Supporting seniors in continuing healthy habits, as well as encouraging them to become more active in their communities, requires a safe and vibrant community and surrounding environment.[7, 12] Safe pedestrian crossings, well-maintained sidewalks, recreational pathways, and access to indoor walking programs and community centres offer opportunities for daily physical activity. Indoor mall walking programs, for example, have adopted existing infrastructure to create a no-cost environment for seniors to interact socially and stay fit in safe, barrier-free spaces.[488] Programs such as Active Living BC support seniors engaging in physical and social activities by providing discounts to art galleries, provincial parks, museums and theatres, and for buses and ferries.[489] As well, all age groups benefit from infrastructural development that facilitates activity and engages those with mobility-limiting disabilities.[327]

Generally, seniors spend much more time at home and in their own neighbourhoods than other age groups. Limited mobility may further localize the activities of some seniors. As a result, being able to get outside and having access to green space and community spaces close to home are important determinants of positive health for seniors. The design and overall attractiveness of the outdoor and community spaces are also important to attracting usage.[490]

A review of international studies of seniors' participation found that a number of adverse community factors such as a lack of attractiveness, and a perception of poor safety due to unattended pets and poor lighting, led to an overall decrease in physical activity.[491] The challenge for communities and organizations is to make physical activity more accessible and attractive to senior Canadians regardless of age, ability and interest. Creating and adapting environments for physical activity is also important in regions of Canada where winters are severe and may limit seniors' activities. For example, the Elders in Motion Fitness Program, a collaborative program of the Dene Nation, the Northwest Territories Recreation and Parks Association and the Canadian Centre for Activity and Aging, encourages elders' participation in physical activity in their local recreational centres, as well as trains elders to be fitness leaders in their communities. Communities incorporating age-friendly designs and adaptations that encourage seniors to get active and involved in local programs have had success in creating neighbourhoods conducive to healthy aging.[492]

In long-term care facilities as well as independent seniors' residences, creating environments that encourage physical activity and recreation among residents can be challenging given their range of functions, capacities and interests.[176] Facility limitations are also a consideration, including lack of space, specialized equipment and staff – especially staff trained in this area. There has been much media attention on the use of video exercise games to increase the physical activity of seniors, particularly those who are living in institutional settings or who face barriers to participating in physical activity outside the home/community centres.[493] Mental health benefits were found to be associated with use of video exercise games among residents with depression who engaged in a 12-week "gaming" program. The use of games that coach people (of all ages) into fitness programs has been shown to increase confidence, interest and physical performance. Seniors involved in the study were found to respond better to a human coach than to a simulated character.[494, 495] Supporting this finding is additional research that shows physical activity interventions that are led and guided and/or managed by a coach, health care professional or therapist have been effective in maintaining seniors' commitment and interest in such programs.[495]

Raising awareness about physical activity

The Special Senate Committee on Aging reports that despite the known benefits of being physically and mentally active during the senior years, some Canadians still do not recognize the importance of remaining active across the lifecourse and into senior adulthood. While many assume that slowing down is protective of health, evidence shows that living an active lifestyle can prolong the number of years in good health. A comprehensive seniors' health strategy would help to create conditions for healthy aging; however, many current strategies are broad, and do not specifically address the needs of seniors.[274]

Promising efforts to encourage health over the lifecourse include *Canada's Physical Activity Guide to Healthy Active Living*, which highlights how Canadians can build physical activity into their daily lives.[496] *Canada's Physical Activity Guide to Healthy Active Living for Older Adults* is designed specifically for seniors and includes the key messages "it is never too late to benefit from physical activity" and "being active promotes health and independence and can lessen the impacts of aging".[178] The guide also outlines how seniors can choose activities that are of interest to them and that may be done in a variety of settings. It also recommends lesser-impact and lower-risk activities

for those who have certain health issues such as heart conditions, osteoporosis and arthritis, as well as for those who are concerned about falling, being unsteady and exercising in various weather conditions.[497]

Education and awareness around the benefits of active living for seniors can also help to challenge assumptions about age and capacity (see the section "*Addressing ageism*" earlier in this chapter). Despite broad national physical activity promotion programs, the number of seniors engaging in physical activity has not been increasing. This may be the result of assumptions about age and what seniors can/should do, as well as the fact that many seniors assume that, if they are in good health, they do not need to participate in physical activity programs or initiatives. Others may feel self-conscious about engaging in certain activities in a public setting where they may not have the same abilities as younger participants.[12] There are also barriers to behavioural change among disadvantaged communities where there are costs associated with physical activity programs as well as other social factors at play. Factors, such as living in a disadvantaged community, can have impacts outside of the addressing capacity of local public health and social services. Individual factors such changing/transitioning income (e.g. living on retirement income) and physical ability may increase a need to develop new, less costly or less physically intense activities. Free or low-cost initiatives targeted to low-income seniors can be offered in specific communities and participation can be encouraged. Affordable activities such as walking and biking can also be promoted.

Interventions that offer incentives, such as tax credits, provide leadership options, and increase the visibility of active and healthy seniors have had some success, such as Canada's *ParticipAction*, which highlights and profiles examples of Canadians of all ages who have challenged themselves and social norms.[498] Also, there is no reason to believe that tax incentives for encouraging physical activity similar to the *Canada Children's Fitness Tax Credit* could not also be effective for seniors.[471]

Some seniors are less active than others, including women, minority groups, those with lower levels of education, people who are isolated or live in an isolated community, those living with one or more chronic conditions (including cognitive impairment), and individuals without family or friends to assist them.[7, 176] A targeted approach should be used to encourage physical activity in these less active groups. As well, consideration should be given to the location of services, the ease of access through transportation networks, as well as affordability. For those with mobility or other limitations, initiatives can be undertaken to encourage engagement in physical activity through home-based programs where success can be measured in terms of the development of strength, flexibility, interest and motivation (see Textbox 4.9 *VON SMART Program*).[499]

Encouraging healthy eating

Addressing issues with seniors eating practices and nutrition often involve creating positive attitudes toward food, addressing issues of social connectedness and health conditions, as well as preventing food insecurity (including among seniors living in northern and remote communities). There is limited information on the effectiveness of nutrition interventions targeted at seniors. Broad upstream population interventions, such as food fortification to address nutritional deficiencies can potentially increase nutrients for the whole population. However, many food fortification interventions have been primarily intended to improve prenatal health and are not targeted to seniors.[501]

Broad programs work to ensure food security among the population as a whole and strive to ensure physical and economic access to sufficient, safe and nutritious foods to meet dietary needs and food preferences for an active and healthy life. *Canada's Action Plan for Food Security* is one example of this type of broad program and addresses a wide range of issues related to foods and production including right to access, reduction in poverty, food safety, access to traditional foods and an appropriate monitoring system.[502] Broad programs such as Nutrition North (building on the previous Food Mail Programs) were established to reduce the cost, increase access and promotion of healthy foods (nutritious perishable foods and traditional, northern foods) to eligible communities in the Yukon, Northwest Territories, Nunavut, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, and Newfoundland and Labrador.[503] During the Food Mail program pilot (2009), key project informants

Textbox 4.9 VON SMART program

The Victorian Order of Nurses (VON) is a national, non-profit organization that has provided community-based health care across Canada since 1897. Among their many programs, SMART (Seniors Maintaining Active Roles Together)® was created to help seniors become more physically active. The goal of SMART is to promote health and maintain seniors' independence through home-based and group exercise programs.[499, 500] SMART addresses several age-related health determinants by creating social support networks, providing exercise and educational development, improving personal health practices and increasing access to health services.[499]

The SMART initiative includes an in-home program that provides individuals aged 55 years and older with supervised exercise in their home as well as a group exercise program available within the community. Programs are delivered by trained volunteers between 31 and 76 years old, with the majority being peers.[499, 500] SMART targets seniors living independently in the community, especially those with health risks and who may also be restricted by cost, transportation or limited abilities.[499]

Since its inception in the mid-1990s, the SMART program has contributed positively to improving the health and attitude of its participants. An evaluation done in 2004 reported that since joining SMART, 34% of its participants became more physically active outside of their regular SMART class. Statistically significant fitness measurement results were also observed during the 16-week monitoring period and participants improved their physical endurance, strength, flexibility, balance and agility.[499]

Furthermore, an evaluation completed in 2008 demonstrated that 50% of the participants of both programs reported their health improved after completing the VON SMART program. More than 90% of the seniors participating in the in-home program stated they were able to maintain or improve their function and mobility, while all the group program participants indicated they maintained and improved their function and mobility. It was also reported that the social aspect of both VON SMART programs was a significant reason for participation and was listed as a primary benefit of both programs.[500] By September 2008, 18 communities across Canada had developed one, or both VON SMART programs.[500]

reported that nutritious perishable foods were more readily available, inexpensive and of a higher quality than before the pilot; however, levels of food insecurity and progress with changing behaviours varied between communities, and among subpopulations of all ages.[503] Although such programs improve food access across the population, they do not address the unique conditions and factors associated with food issues for seniors such as isolation and mobility issues.[502] The report *Healthy Aging in Canada: A New Vision, A Vital Investment*, discussed at the beginning of this section, calls for greater nutrition interventions that directly target seniors; these interventions are scarce and their evaluations are rare.[7, 12]

For seniors, nutrition and social relationships can be linked. For example, those who report being lonely, isolated or depressed often lose interest in eating. As well, many seniors question the need to prepare food for one person as the effort may outweigh the perceived benefits. Programs that encourage seniors to cook for themselves, or for friends and groups, encourage better eating practices and simultaneously contribute to being socially connected and enhancing positive mental health.[7, 12] Seniors' groups that teach cooking and meet for dinner or lunch regularly encourage healthy eating among those who may be undernourished due to inadequate food consumption and/or skipping meals.[504]

Poor oral health, including tooth loss, among seniors can influence food choices and lead to poor nutritional outcomes.[268, 505, 506] These factors are often more prevalent in long-term care facilities where other conditions such as functional difficulties that limit teeth cleaning and self-feeding, as well as medications, can increase tooth decay and impact eating habits. While many seniors may have received good dental care earlier in the lifecourse

due to employer health insurance plans and greater access to services, management of oral health care declines with age due to access and affordability.[270, 506, 507] In a review of the Oral Health of Seniors in Nova Scotia, it was reported that seniors' oral health issues should be integrated into public health frameworks, including: regular reporting on indicators related to seniors' oral health; developing, implementing, monitoring and evaluating oral health care of seniors; and developing oral health awareness campaigns that specifically target seniors.[507] The *Canadian Oral Health Strategy* recommended a national standardized method of monitoring oral health indicators in Canada.[508] In response, an oral health component was included in the *Canadian Health Measures Survey, 2007 to 2009*.[269]

As noted in Chapter 3, poor nutrition can have adverse health impacts.[7, 180, 181, 190] There has been some success with nutrition awareness programs targeted to seniors, as well as nutrition screening among at-risk seniors to identify problems and assess solutions (see Textbox 4.10 *Seniors in the Community Risk Evaluation for Eating and Nutrition*) but these efforts and their evaluation are limited. Practices that encourage healthy eating among seniors need to address the broad range of factors that influence nutrition, including food choice, oral health and health, social and economic vulnerability.[7, 509] As well, education programs are needed that provide information and that challenge assumptions about healthy weights and eating practices for seniors.[7] Further research and knowledge is also needed to better understand the determinants of seniors eating habits, as well as increased evaluation of interventions.

Addressing smoking, alcohol and drug use

While about 9% of seniors (65 years and over) currently smoke (see Chapter 3), there are few seniors' smoking cessation programs, limited successes associated with these programs, and very few program evaluations and compilation of best practices.[7, 192-194] Also, while there are positive health outcomes for seniors who quit smoking, there is still little research regarding seniors' motivations and barriers. More work needs to be done to increase the knowledge, awareness and effectiveness of seniors' smoking cessation programs.

Smoking cessation interventions primarily targeting youth have not been as effective with seniors.[516, 517] These two groups have very different attitudes and experiences related to smoking. For seniors, awareness campaigns that depict a loss of independence or quality of life or highlight the impact of smoking on the health of a loved one have been most effective in encouraging seniors to quit.[516-518] Peer support for smoking cessation has had some success, especially when former senior smokers testify they were able to stay smoke free and saw improvement in their lives. Seniors need to be able to relate to other seniors and be aware that it is never too late to quit. Broad smoking cessation for all age groups is rarely achieved using a single point of entry or one single intervention.[517]

As with smoking, programs targeted at seniors and/or risk factors for seniors in terms of alcohol and drug use are limited. A variety of treatment approaches can be used or combined to address seniors with substance abuse issues. Peer-led self-help groups, such as Alcoholics Anonymous, have had some success with seniors in building social relations and mentoring among people of a similar age.[517] Brief interventions, as well as cognitive-behavioural treatment approaches, address the individual's motivations, thoughts and beliefs that underlie substance use problems. Similarly, outreach services provide treatment in the senior's home and overcome barriers inherent in requiring the senior to travel to receive services. Many intervention techniques that involve targeted programs to seniors and seniors helping seniors through support have had some success.[12]

Textbox 4.10 Seniors in the Community Risk Evaluation for Eating and Nutrition

Seniors in the Community Risk Evaluation for Eating and Nutrition (SCREEN), is a screening tool developed in Canada to determine nutritional risk among seniors. SCREEN II is a 14-item questionnaire covering issues that influence the nutritional health of seniors, such as weight change, food and fluid intake, and risk factors associated with these.[510] Intended for seniors living in the community, the SCREEN questionnaire can either be self- or interviewer-administered, making it very adaptable to both healthy and frail seniors, and easy to use in a variety of settings.[511, 512]

SCREEN has been used extensively in research and practice and has proven to be highly valid and reliable. Bringing Nutrition Screening to Seniors (BNSS), a national demonstration project that began in October 2000 through the Dietitians of Canada and Professor Heather Keller (the creator of SCREEN), used the SCREEN tool to assess the possible nutritional risk of over 1,200 older adults from five communities across Canada (North Shore Vancouver, British Columbia; Toronto, Ontario; Timmins, Ontario; Interlake, Manitoba; and Saint John, New Brunswick).[512-514]

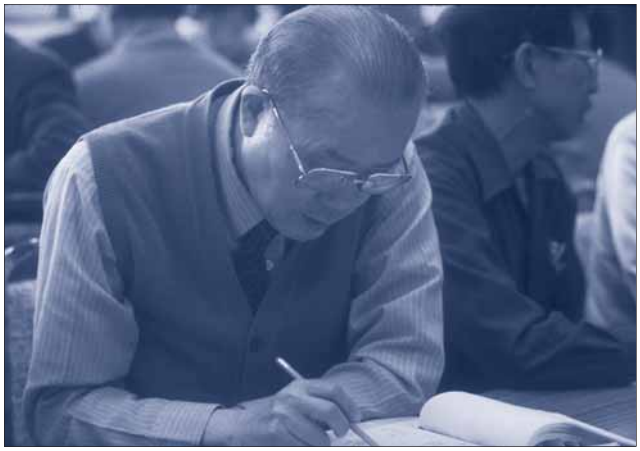
Through evaluation and analysis of the data that was collected over a nine-month period by trained volunteers, service providers and health care professionals, it was found that approximately 40% of the seniors in the BNSS project were at nutritional risk.[512, 514, 515] All at-risk seniors were referred to services designed to meet their nutritional needs, with the option to follow a referral process providing further support. However, only 40% of participants accepted referrals to a doctor, dietitian or other service. Of those referred to a dietitian, only 17% saw this health professional during the follow-up period. Reasons for this included the fact that many were still on the waiting list, while others decided not to follow through with the referral because they were required to pay for the service. Nonetheless, over half (55%) of the at-risk BNSS participants took action and felt that their nutrition had improved because of the screening, education and referrals associated with the project.[512, 515]

The key to addressing nutritional risk among seniors is early identification. Despite the general lack of relevant nutrition programs and dietetic services available to older adults in many Canadian communities, SCREEN and similar nutrition screening tools could potentially help raise awareness and contribute to the successful identification and assessment of solutions for nutritionally at-risk seniors living in both rural and urban communities across Canada.[512, 514, 515]

It is also important to note that alcohol and drugs may be used by seniors to address chronic pain issues and/or insomnia. Interactions with prescription or over-the-counter medications can cause further health impacts, including decreased medication effectiveness, disorientation that may lead to falls or an increased risk of overdose.[205] Drug and alcohol cessation programs targeted to seniors should consider these issues, as well as other causes of substance use (e.g. loneliness, depression) to increase their effectiveness.

Ensuring health literacy for seniors

Health literacy is influenced by a number of factors including education, income, cognition, health and functional conditions.[73, 277, 279] Among seniors, health literacy is specifically influenced by aging; as a decline in health literacy skills may occur as people age, and by the fact that the current cohort of seniors generally has a lower level of education than younger age groups. Compounding this issue is the fact that as people age they are more likely to require health care services, information and treatments. This is a concerning issue in regards to seniors who lack the health literacy skills necessary to make basic health decisions and to access and accurately assess relevant health information.[276] The ability to acquire information can be further compromised by challenges with mobility, access to service, language, and level of technological skills and social engagement. Addressing health literacy among seniors will require better recognition of the issue and widespread action to engage individuals, communities and policy-makers to



manage and improve health literacy levels among seniors as well as all other age groups.[280]

A low level of health literacy often results in the inability of seniors to access programs and services and to adhere to treatment regimes or disease management protocols.[280] These activities often require that an individual manoeuvre through systems of paperwork and information, which are often a barrier to receiving appropriate care. Awareness campaigns should encourage seniors to keep abreast of their own health and care issues (if possible). As well, seniors can work toward improved health literacy through daily reading, which evidence shows can improve health literacy scores by 52%.[280] Health literacy campaigns should also reinforce the benefits of posing questions to health care providers and pharmacists, and help to identify various sources and means of accessing additional health information, including the identification of a trusted individual to act as a health champion.[280]

All levels of government have a responsibility to address health-literacy challenges. Governments can apply plain-language principles to all health information and related services (such as medical insurance forms and medication labels) and support the translation of health-related materials in various languages in areas with populations of linguistic minorities. Communities can offer outreach programs to vulnerable populations, such as seniors who are immigrants, have low levels of education, have mobility issues or live in underserviced areas.[280]

Further, educating health care professionals about health literacy issues can enable them to better serve a diverse group of seniors who may otherwise have difficulties making informed decisions about their health and their options for care. The use of medical interpreters, for example, can assist health care professionals in ensuring that at-risk seniors receive and understand accurate information and instruction. Interpreters can, in turn, provide assurance to seniors with language barriers that their concerns and any issues they may have are properly communicated to their health care provider and/or pharmacist.[519]

In providing revised or targeted health information materials and services, there is also a responsibility to monitor effectiveness of these actions to ensure needs are being met. Gathering information on health literacy trends and issues is necessary to continue providing effective support for those in need.

Supporting opportunities for lifelong learning

Efforts to become more socially engaged can be enhanced through educational and/or lifelong learning opportunities. Seniors who participate in these activities can create and foster new interests and knowledge and maintain or increase their involvement in their communities. Participating in a learning activity can increase quality of life, prevent loss of brain function and improve cognitive skills, which may include improving or maintaining literacy skills.[280]

It is important for seniors to recognize the mental health benefits of continued learning and the educational opportunities available to them. Communities need broad approaches and guidelines to find collective ways of overcoming barriers to participation, developing learning programs and sharing best practices. A number of approaches can be used to improve access to lifelong learning:

- awareness efforts that encourage the participation of seniors;
- better information exchange on activities, programs and opportunities for and among seniors and across communities; and
- incentives for seniors to engage in learning (e.g. tax credits, reduced rates).

Educational programs are available to seniors within many settings. Local school boards offer continuing education programs, with courses ranging from adult high school curriculum to general interest courses. Many of Canada's universities and colleges support seniors who are interested in enrolling in degree/diploma courses by offering low or no-cost tuition as an incentive. Some seniors may be interested in learning at a post-secondary institution but may be deterred by the added responsibility and potential stress of exams and schoolwork. For these individuals, the option to audit courses and/or tailor programs to seniors has had success in encouraging their participation (see Textbox 4.11 *Opportunities for lifelong learning: University of the Third Age*). For example, the Seniors College of Prince Edward Island, an affiliation of the University of Prince Edward Island Centre for Life Long Learning, provides learning opportunities for seniors with a range of interest courses across three regions of the province.[520]

A seniors' knowledge network can serve as a communication mechanism for creating awareness of learning opportunities within various communities and providing an information exchange among network members. However, seniors who are educated or who participated in learning activities across the lifecourse are more likely to continue to participate in lifelong learning.[274] More work needs to be done to encourage those who are less likely to uptake learning programs to participate.

Textbox 4.11 Opportunities for lifelong learning: University of the Third Age

In 1976, the first North American University of the Third Age (UTA) was created in Sherbrooke, Quebec. UTA is part of a global movement in Asia, Europe, and North, Central and South America.[521, 522] UTA offers programs at existing universities that are geared towards people aged 50 years and older. Students are admitted as auditors and no exams or assignments and no previous diploma or degree are required.[523]

The courses offered are comparable in quality and content to any other regular university program and curriculum but are delivered through various means such as courses, seminars, interactive talks, workshops and activities. Subjects such as history, politics, literature, health, philosophy, science or environmental studies are among the many choices that are offered to senior students. At UTA-Sherbrooke, interest in attending courses, seminars and workshops has increased steadily over the years and in 2008 there were approximately 8,000 registrations at one of Sherbrooke's 27 locations.[523, 524]

UTA has a number of benefits for seniors that go beyond the acquisition of knowledge. This type of program can reduce the isolation of seniors, promote their integration into cultural and social life, and enhance information exchange.[525] A study done in 2008 showed that being part of a UTA provides positive health benefits. For example, women indicated that it helped them reduce their feelings of sadness, increased their self-esteem and level of happiness, and helped them to find new meaning in their lives. The study indicated that UTA contributed positively to the well-being of seniors and could possibly act as a predictor of aging well.[526] Furthermore, it was also shown that UTA helped seniors improve their perception of well-being.[527]

There are several French and English UTAs across Canada.[524] In Australia, a virtual UTA is now available to older people anywhere in the world, making it especially convenient for seniors who are isolated because of geographical, physical or social circumstances.[528]

Care and services

For generations, Canadians have provided care for family members/peers who are sick and/or aging inside and outside the home. The majority of seniors' care (about 72%) is provided through informal sources – both family members and friends.[73] However, although demographic patterns have evolved and more individuals (particularly women) are participating in the workforce, care often coincides with other responsibilities such as formal working arrangements and child care.[529, 530] For a number of seniors, formal care providers can help them maintain independence at home by offering support for acute/chronic health conditions and with meal preparation and daily activities.

The various levels and services of seniors' care can be complex. As well, the transitions between levels of care are not often smooth.[274] Seniors can experience difficulties in accessing, affording and deciding on the right care. In addition, decisions on care can impact the individual requiring care, the individual's family members and caregivers, as well as health care providers. The question for public health, health care and social services is how to best meet the needs of Canada's seniors now and in the future. What can be done to support individuals and their caregivers to ensure the best care in their place of choice?

Much research exists on the range of care opportunities that are or could be options for Canadian seniors. The following section highlights five areas of care that play important roles in aging:

- home and community care;
- assisted living and support;
- long-term care;
- palliative and end-of-life care; and
- integrated care.

While each addresses some of the needs of seniors, it is clear that Canada can do more to ensure a broader range of needs are met and to create a continuum of care in the future.

Home and community care

Home and community care services are received primarily at home or in the community, rather than in a hospital, supportive housing or long-term care facility setting.[531] Home care can bridge the gap between independent living and living in a residential care facility, as well as provide opportunities for seniors to continue to live at home if this is their place of choice.[531] A range of care is delivered by various individuals including regulated health care professionals (e.g. nurses, occupational therapists), non-regulated workers, volunteers, friends and family.[531, 532] Programs can offer an array of social services including homemaking and assistance with bathing, meal preparation and recreational activities. For many individuals, assistance with living at home can decrease and/or delay care in a hospital or long-term care facility.[531, 533] For the most part, evidence shows that home care can be a lower

cost alternative to residential care among recipients with similar care needs (even when informal care time is valued at replacement wage).[534, 535] Differences in cost arise when type and level of care changes, which underlines the need for a planned and targeted approach to home care to ensure cost efficiencies.[534, 535]

Being able to provide home care across a variety of populations and communities can be difficult. While many seniors with care needs prefer to live independently, being able to access culturally and care-appropriate services in their community can be challenging (e.g. for those who live in rural and remote communities or those who are part of a vulnerable population). Some programs, such as Health Canada's First Nations and Inuit Home and Community Care (FNIHCC) Program, have been developed to provide comprehensive, culturally sensitive, accessible, effective and equitable services that respond to the health and social needs of First Nations and Inuit communities.[536, 537] FNIHCC funds essential services such as care assessment and management, home nursing services, in-home respite care, personal care, and linkages with other professional and social services. Evaluations show that since its inception 10 years ago, FNIHCC has built community health capacity by developing home and community services where there were no such services before. Also, the participation of First Nations and Inuit peoples in all stages of development has directly resulted in a strong sense of program ownership.[537] FNIHCC has been able to provide services to individuals within their own communities who would otherwise have had to seek these services elsewhere.[537, 538] Complementing the FNIHCC is Indian and Northern Affairs Canada's Assisted Living Program, which provides services that are specifically directed at First Nations seniors with functional limitations who may require assistance to maintain their independence.[539] Programs such as FNIHCC have been effective addressing home care issues of First Nations on-reserve and Inuit communities, however, similar programs could be adapted to address the home care needs of Aboriginal communities in other jurisdictions.

Canada's Veterans Independence Program is a national home care program that helps eligible veterans remain in their homes or communities for as long as possible.[60, 540] In 2005-2006, the VIP provided support to approximately 97,000 veterans.[541] It works with existing services and programs in the local community to meet veterans' unique care needs.[60] Those who qualify for the VIP can receive a range of health, personal and household services. Further, additional services are available to eligible veterans for such things as ambulatory health care, transportation expenses for activities that foster independence, nursing home care, and home adaptations that improve an individual's capacity to make a meal, bathe and sleep. The VIP has also been expanded to extend services to low-income and/or disabled survivors of veterans and civilians who served during World War I, II or the Korean War. In addition to assisting participants with care needs while living at home, the VIP participants have reported good levels of satisfaction with the program.[60, 540, 541] Another successful initiative for Canada's veterans, the Overseas Service Veterans "at Home" Project, has demonstrated the benefit of providing at home options for veterans who are

Textbox 4.12 Overseas Service Veterans "at Home" Project

The Overseas Service Veterans "at Home" Project was implemented in 1999 by Veterans Affairs Canada to serve the growing number of veterans who were waiting for a long-term care facility placement. This project allows veterans to access and benefit from home support services, where available, such as grounds maintenance, housekeeping, meal delivery, personal care, transportation and certain home adaptations.[274, 543]

A review of the project in 2002 revealed that 90% of the veterans contacted opted to stay in their own homes with ongoing home support services, rather than relocate to a facility, even if a bed became available. Further, participants reported a high level of satisfaction with the project.[274, 543]

Through this type of initiative, the choice of aging safely in place becomes a possibility while also allowing potential savings of thousands of dollars. Veterans Affairs Canada reports that providing care services at home costs between $5,000 and $6,000 per client per year, on average, while a nursing home placement can cost from $45,000 to $60,000 per client per year.[543]

waiting for long-term care placement (see Textbox 4.12 *Overseas Service Veterans "at Home" Project*). The VIP has been recommended as a model for broader home care programs and is being adopted more broadly.[542]

The success of programs such as VIP are based on the provisional policy of a continuum of service or graduated care model, emphasizing the need for early identification, assessment and intervention to prevent undue health system dependency. Providing a wide variety of service options is also important to be able to respond to changing needs and differences in need among individuals and the communities that support them. As well, initiatives should include provisions for working with provincial, territorial and community programs (such as VIP) to complement existing services rather than duplicate efforts.[274]

In Alberta, the *Continuing Care Strategy* is intended to deliver services that provide Alberta seniors with options to stay in their homes and communities for as long as possible. This client-focused strategy prioritizes the health and personal care required for seniors to "age in the right place." Alberta is working on an evaluation and assessment of the strategy in order to examine if the right level of service is being provided in the appropriate setting.[544] Internationally, Australia's *Home and Community Care* aligns domestic, health and personal care services with the goal of meeting the needs of individuals who require assistance with daily living (including seniors) to help them maintain independence and reduce unnecessary admissions into residential care.[545]

Over ten years ago, the National Forum on Health (1997) offered a number of recommendations, including one on home care that launched broad discussion about home care delivery in Canada. These recommendations also highlighted three areas for action to move toward a more integrated system of health care: providing options that ensure quality of life and reduce the risk of institutionalization; care that is appropriate to patient needs, cost-effective and support to caregivers; and, a system with a single point of entry that assesses needs on a case-by-case basis.[546] Since the release of the findings of the National Forum on Health, other debates have focused on integrating home care services; however, questions still remain and more work needs to be done in this area.

Supporting caregivers

Informal care providers play a vital role helping seniors to live at home. These efforts can reduce impacts on long-term care facilities and hospitals as well as help to maintain seniors' independence and capacity to live in their homes and communities.[274, 532]

While most caregivers report that they are generally coping or coping very well with their caregiving responsibilities, some may experience adverse health and social outcomes.[260] Caregivers, themselves – especially family caregivers – may be prevented from working outside of the home, or have to reduce/change hours of work, may incur unreimbursed expenses, and may experience social isolation, and/or mental and physical fatigue with longer-term health outcomes.[73] For some caregivers, this unpaid work can go unrecognized by the care recipient, family, co-workers and communities.[547] Canada, as a society, values caregivers and all Canadians have a role to play to support caregivers in their daily activities.

Supporting caregivers is complex as individual and situational needs vary. Many players need to be involved, including governments, employers, stakeholders, communities, and individual Canadians. In Canada, there are several programs to support caregivers which vary from financial support (including wages, tax relief, and labour policies) to community supports and services.[530]

The federal government provides a range of supports, including the *Caregiver Tax Credit*, the *Eligible Dependant Tax Credit* and *Infirm Dependant Tax Credit*, and the transfer of the unused amount of the *Disability Tax Credit*, which recognize the reduced ability of caregivers to earn and consequently pay income tax as a result of supporting a dependent.[305, 548-552] Tax recognition for a dependent spouse is also provided through the *Spousal Credit*.[553] Under the *Medical Expense Tax Credit*, caregivers can claim on behalf of a dependent relative, up to $10,000 in eligible medical expenses.[554, 555] The federal government also offers targeted programs for caregivers of populations under federal responsibility. The *Canada Pension Plan General Drop Out* provision automatically exempts from a person's pension calculations up to 15% of his or her years of low- or no-income for a variety of reasons, including caregiving responsibilities.[556] Labour policies such as expanded and flexible paid leave for caregiving, are believed to be beneficial in helping to balance work and caregiver tasks. Canada's *Employment Insurance Compassionate Care Benefit* provides financial support to caregivers who require time away from their jobs to take care of gravely ill family members or friends.[305, 557] In addition, the Government of Canada is investing in research over the next three years to fill knowledge gaps on key caregiver issues.[305]

While each province and territory organizes health services differently, most provide provincial tax credits for caregivers, home and continuing care supports and services, along with important resources for caregivers such as respite programs, counselling and support groups. Some Canadian employers also offer a variety of flexible work arrangements for employees with family and caregiving responsibilities (e.g. telework, flexible work hours, provide on-site adult day care centers) so that employees can better balance work and care responsibilities. These kinds of initiatives can be mutually beneficial to employers by reducing costs incurred due to absenteeism, higher rates of illness for working caregivers, and the loss of skilled employees who leave work for caregiving responsibilities because of a lack of flexibility.

During national caregiving consultations for the Special Senate Committee on Aging, many participants emphasized that support for caregivers and care receivers are interrelated and issues span jurisdictions.[274] When seniors caring for seniors were asked about the types of assistance that would be useful to them in order to continue to provide care, 40% reported occasional relief or sharing of responsibilities, 30% reported financial assistance, 25% reported requiring more information about the nature of the long-term illness and how to be an effective caregiver, and 16% reported wanting counselling.[214, 262] While care receivers' access to home care and related supports can have positive impacts, it is difficult to assess the quality of benefits and challenges associated with these impacts. In order to better support informal care, more needs to be known about caregivers (e.g. the short- and long-term health and social outcomes of providing care).

With the aging of the population, an increase in the incidence of disability, more women in the workforce, and the emergence of smaller, less traditional, more dispersed families, it is anticipated that the number of informal caregivers needed in the future is likely to increase. Consequently, how to support caregivers is a topic of much debate in Canada and other countries. The debate centres on issues of what is appropriate, ethical, meets needs of caregivers and care-receivers, and considers policy priorities. The need increases as the demand for caregivers increases and the supply simultaneously decreases as a result of demographic changes, workforce participation and patient health conditions.[530] Considering the future needs of caregiving in Canada, more can be done to improve conditions for caregivers.

Other countries also have programs in place to support caregivers that include tax relief, paid leave, wages and broad community supports. Australia's National Respite for Carers Program offers community-based respite services in a variety of settings (home, residential and away) as well as a network of caregivers who can provide counselling, information and advice. Australia also provides a *Carer Payment* (a bi-weekly payment to those providing eligible care) and a *Carer Allowance* (a non-taxable supplementary payment available to caregivers who provide daily care to those with a severe disability or medical condition).[558, 559] Norway's health and social service policies cover a broad range of supports and services for caregivers, including its *Social Services Act* and *Action Plan for the Elderly*

that support caregivers with respite care and caregiving wages.[560] Sweden has national measures to support family based caregivers such as its *Care Leave Act*, which provides caregivers opportunities to receive paid leave to support seriously ill family members and its *Social Service Act*, which encourages communities to support local caregivers.[561]

Assistance for caregivers can also come from the private sector by providing support to employees with caregiving responsibilities. Companies such as the United Kingdom's BT Global Service (a telecommunications company) supporting employees, who are also caregivers, with flexible work hours, remote access or work-from-home arrangements.[562-565] As a result of these arrangements, BT reports higher productivity and job satisfaction among these employees.[566-569] By providing opportunities for family to care for other family members, the capacity of caregivers is increased, the ability of seniors to age in place of choice is maintained and the number of people relying on residential care is reduced.

Broad home care strategies

Canada does not have a home care strategy that addresses issues for both caregivers and care recipients. A national strategy would include several key components:

- education and training of caregivers to determine best practices for care;
- efforts to support and communicate across provinces/territories and all communities in Canada;
- efforts to raise awareness of the critical role caretakers play in the lives of many Canadians; and
- efforts to develop of working options for people who work and are also caregivers.[570]

A greater understanding of home care and the role it plays for individuals, families and communities is required. So, too, is better knowledge around the relationship of home care to public health and health care activities. Additionally, more needs to be done to raise awareness of home care practices and the role they play in care provision, share best practices, support caregivers and identify issues and barriers to moving forward.[570]

Assisted living and support

Assisted living can address transition periods when individuals' needs for care exceed what is available in their own homes but do not require the attention and intensity of the service found in a long-term care facility.[571] Filling this gap is addressed through a range of both private and public-style housing options that offer services ranging from housekeeping and meal preparation to transportation and social activities.

Generally, in Canada, work still needs to be done to ensure that seniors have access to affordable supportive housing offering appropriate levels of services in places of choice. Regulations for supportive living vary by jurisdiction – in some areas there is a landlord-tenant relationship and in other jurisdictions it is classified as health services.[274] Services need to be regulated to ensure standards are met, costs are managed, and health and safety concerns are addressed.

It is important to ensure that needs are met for all seniors and that gaps in basic service are not determined by income.[274] In general, those with higher incomes have access to a greater range of supportive housing opportunities, whereas those with lower incomes can face a housing shortage based on access, availability and affordability.[572] Facilities that offer specific services or tailor to needs can be expensive and uninsured. Often

too, there are increased costs associated with providing services at times of greatest need and vulnerability. Ideally, supportive housing fills the needs associated with transitional care and minimizes health impacts such as isolation and discomfort as seniors move between levels of care. Some jurisdictions are beginning to manage access to assisted living and support through a single entry point in order to provide appropriate and timely care. While this approach is successful in some areas, difficulties exist in the creation of systems that are too complex to navigate.

In smaller, rural and remote communities, seniors may experience barriers to accessing assisted living and support that can result in displacement to larger urban centres and/or accepting service gaps and facing adjustments in their needs/housing type.[82] Making do with fewer services because needed services are not available in the local community can result in extended hospital stays and/or living in a long-term care facility before it is necessary or beneficial, or remaining at home and at risk with no support.

The housing sector can play a key role in addressing individual and community needs with its knowledge of available options. For example, Independent Living B.C. helps low-income seniors who require support to remain independent by working with British Columbia Housing – in partnership with CMHC, housing providers and health authorities – to deliver a program to eligible participants who require personal care but not long-term care.[573] In remote areas, where access to care is limited, some progress is being made with federal investment in housing for low-income seniors, and renovation and retrofits in Canada's North and on-reserve in First Nations communities. For example, the On-Reserve Non-Profit Housing Program (section 95) assists First Nations community members, including seniors, in acquiring suitable, adequate and affordable rental housing on reserve. The program supports First Nations in the construction, purchase, rehabilitation and administration of affordable housing in communities such as Michipicoten (Ontario) where a high proportion of the population is older, and there is a growing need for affordable housing for seniors.[574, 575]

Long-term care

Long-term care services provide residential supervised care that includes professional health services, personal care, and services such as meals and laundry.[576] The range of services in long-term care varies and most facilities are provincially/territorially monitored (with the exception of services to on-reserve First Nations communities, veterans and offenders, which are federally addressed).[576] Long-term care is also complex and there is no consistency in the terms used across Canada to describe this type of care and the services offered.[576]

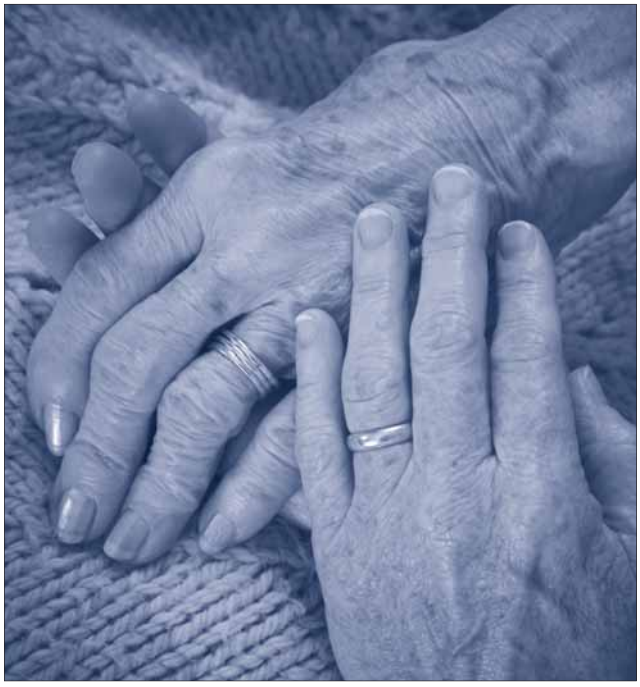
Although extended health care services are covered under the *Canada Health Act*, long-term care is non-insured and often requires user fees. Not understanding the distinction between insured and non-insured care can cause individuals to experience challenges in navigating, paying for and waiting to access long-term care facilities.[274] Costs and care vary across Canada, with different levels of care and sources of funding. Variation is due, in part, to differences in private and publically funded beds (and the care associated with those beds). A majority of long-term care facilities are privately owned and care can often be costly. For publicly funded facilities, significant waiting periods for a placement is typical. Waiting periods can cause gaps in care as well as displacement. Additionally, long-term care is not portable across provinces/territories such that subsidies, waiting periods and fee-for-services vary and can present barriers to seniors who are trying to move across provincial/territorial borders.[274] This is often a difficulty for seniors who wish to move into the same community as other family members or live in the same facility as a partner, relative or friend.

In general, individuals entering long-term care facilities are older and have greater health care needs than in previous generations. In particular, there is an increase in those who are frail, have severe dementia and/or have multiple health conditions. In order to provide care to this vulnerable population, there is a need for specialized care and special care units within long-term care facilities that requires higher staff numbers and better training in key geriatric fields.[8, 274] Shortages of trained staff and accommodations within facilities contribute to difficulties

in access. It is important that governments and communities work now to ensure that appropriate facilities and services are in place to meet the long-term care needs of Canada's current and future seniors population.

Palliative and end-of-life care

In recent decades, palliative and end-of-life care has gained increased recognition by health care providers, educators, governments and the general public as being an important and valued component of care that requires appropriate and compassionate support to individuals and their families/friends.[577] The purpose of palliative and end-of-life care is to provide services such as pain and symptom management, psychological, social, emotional, and spiritual support, as well as bereavement support for caregivers and families. Palliative and end-of-life care can occur in a range of settings such as hospitals, long-term care facilities, hospices, and private homes. Funding may come from a range of sources, including various levels of government, private sources and charitable donations.[577, 578] Ideally, care is provided by an interdisciplinary team that may include nurses, physicians, social workers, various therapists, spiritual advisors, bereavement support workers, volunteers and informal caregivers.[577] Each year, palliative and end-of-life care impacts the well-being of many Canadians. The Canadian Hospice Palliative Care Association estimates that for each death in Canada, an average of five additional Canadians are impacted.[578, 579]



Access to palliative care is a concern in Canada. It is estimated that only 16% to 30% of Canadians who die have access to, or receive needed hospice palliative and end-of-life services, and even fewer receive grief and bereavement services.[578] While many individuals are dying in hospitals, few are receiving care designated as in-patient palliative that may be required. Despite findings that about 70% of individuals report a preference to die at home, most individuals are dying in hospitals, few of which offer in-patient palliative care services.[578-580]

As aging in place of choice is critical to healthy aging, so too is dying in one's place of choice. Addressing the discrepancy between what is preferred and what is possible is an issue requiring further consideration in palliative and end-of-life care planning. Establishing options for end-of-life care depend on the capacity of health care professionals, families, caregivers and volunteers and the overall ability to provide adequate end-of-life care that are also consistent with the individual's wishes. Additional training for health care professionals and support of palliative and end-of-life research may be necessary to provide the proper tools to assess and support individual and family needs, raise awareness and achieve effective practices.[577] There is a need for an integrated system that can effectively coordinate transitions between home, palliative, long-term and hospital-based care in order to provide the highest quality and most cost-effective care possible.

Not enough is known about the demand for, supply, quality or costs of palliative and end-of-life care in Canada. At the population level, it is difficult to assess the extent to which the needs of individuals and their families are met.[580] Health system data as well as differences in perception of the services available and how needs have been met vary across the country. More information is also needed about the type, amount and appropriateness of care to address and manage pain, bereavement and other support, as well as the

effectiveness of end-of-life care programs.[580] In addition, more information is needed the effectiveness of end-of-life care programs. As Canada plans for future palliative and end-of-life needs, improvements to data and information systems will be required.

Canada has made progress in addressing palliative and end-of-life care. From 2004 to 2009, CIHR funded $16.5 million for palliative and end-of-life care research, primarily for teams in areas such as care transitions, caregiving, pain management, care for vulnerable populations and program evaluation.[579, 581] Furthermore, through the *10-Year Plan to Strengthen Health Care*, the Government of Canada has provided support to provinces and territories to improve the quality and accessibility of home palliative care.[305] The *Employment Insurance Compassionate Care Benefit* is a key support for people who need a temporary leave from work to care for someone who is gravely ill. This program was recently extended to self-employed Canadians.[305, 582]

From 2002 to 2008, Health Canada supported the work of the *Canadian Strategy on Palliative End-of-Life Care*.[577] Under the strategy, five collaborative working groups focussed on initiatives around best practices and quality care, education for formal caregivers, public information and awareness, research, and surveillance. Key accomplishments included a core set of performance measures for accreditation and guiding principles of palliative and end-of-life care; a palliative and end-of-life framework to promote awareness and increased dialogue on palliative and end-of-life care; tools for knowledge translation to move from research to practice and policy; and the development of electronic networks to share information, research and best practices.[577] While the strategy has come to an end, the Government of Canada continues to support a variety of initiatives.

Other organizations are also looking at palliative and end-of-life health issues. The Canadian Coalition for Seniors' Mental Health, in collaboration has developed the adapted *National Guidelines on the Assessment and Treatment of Delirium in Older Adults* to end-of-life settings.[583] The Canadian Hospice Palliative Care Association and the Quality End of Life Care Coalition are concerned with improving access to quality end-of-life care, promoting research, raising awareness and supporting caregivers and families.[581]

As Canada's population grows older and lives longer, (in many cases with chronic illnesses and functional limitations), palliative and end-of-life care will need to be coordinated to manage complex service issues.[580] Palliative and end-of-life care must best reflect the right kind of care, at the right time and in the most appropriate settings. This growing need is a call to action to work together to achieve the best care possible for all Canadians.

Integrated care

Aging well involves having choices of where to live, having access to health care and social services, and living in supportive communities. However, many seniors report having unmet health, social and care needs.[73] Often this results in a gap in care and, from a health systems perspective, is inefficient and more costly. While Canada has had success with long-term care, and with acute and emergency care, there are limitations in addressing the continuum of care along a range of care needs – from home care to palliative care. As well, underserviced communities may not be sufficiently integrated to meet the needs of seniors with chronic and other health

conditions.[586, 587] Difficulties are experienced by seniors who have to navigate, manage and pay for a range of care services. Difficulties also occur in the transition between care providers, as seniors move from home-based care to assisted living and/or long-term care.

There is no clear and agreed upon definition of **integrated care**. It can also be described as managed care, continuity of care, patient-centred care, shared care, as well as transitional care. In this report, integrated care refers to an approach that combines delivery, management and organization of health services and promotion in order to improve access, quality, user satisfaction and efficiency. The approach is about connectivity, alignment and collaboration within, and between, treatment and care sectors.[584, 585]

The care of seniors needs to be part of mainstream health care. This involves developing comprehensive and integrated systems of care addressing seniors' varying needs without the differences in eligibility and costs.[587] Outcomes of integrated care are a higher quality of care and lower costs for that care.[586, 587] A key component of integrated care is to develop a broad home care strategy and recognize the contribution that home care plays in meeting the needs of seniors. Providing opportunities for seniors to maintain their independence for as long as possible is estimated to effectively save health care monies that are otherwise spent on early admission into long-term care facilities.[586, 587]

There is much debate about integrated care, its effectiveness and the practical implementation of such a strategy.[274] In Canada, several approaches have been developed for integrated-style care. For example, the Hollander and Prince Continuing Care Model builds on the strength of home and community-based services and applies transitions across all levels of health care.[533, 587] The model has 10 key elements of continuing care – five in each of administrative best practices and service delivery best practices. It is based on empirical analysis of the problem and builds upon Canadian traditions and successes in service delivery for persons with ongoing care needs.[533]

Other projects examining integrated community-based services for this vulnerable population, such as the System of Integrated Care for Older Persons (SIPA) and the Program of Research to Integrate Services for the Maintenance of Autonomy (PRISMA) studies in Quebec, have also generated growing interest within Canada and abroad because they address care delivery systems from a primary health care perspective (see Textbox 4.13 *Models of integrated care for the frail elderly*).[587] Maintaining an integrated system requires a single access point, strong leadership and advocates managing clients through the system. Given the complexity of care issues, Canada needs to address the disconnect between levels of care. However, it is also important to recognize that an integrated strategy within a Canadian context may be difficult to coordinate given the federal/provincial/territorial environment within which it would be required to operate.

Some countries have integrated community and continuing care into their universal health care. For example, Japan has one point of contact that handles assessments to determine needs and levels of care and manages transitions between levels and types of care.[588] Since the Japanese universal health care system is relatively recent compared to Canada's, policy-makers in that country had the opportunity to anticipate the increase in its seniors population and the need to incorporate care functions within that health system (see Textbox 4.14 *Providing long-term care – the Japanese experience*).

Textbox 4.13 Models of integrated care for the frail elderly

The two main integrated health care delivery models for the frail elderly, developed through pilot and demonstration projects in Quebec, are the SIPA (System of Integrated Care for Older Persons) model and the PRISMA (Program of Research to Integrate Services for the Maintenance of Autonomy) model.[587] SIPA and PRISMA were initiated to evaluate the impact of their models on the utilization and cost of health and social services with the existing health care system available in Quebec. As well, both models assessed the satisfaction and empowerment of the frail elderly and the burden on caregivers.[589-593]

The **SIPA** model was developed by the research group Solidage from the Université de Montrèal and McGill University. Extensive consultations occurred with decision makers as well as the Québec Ministry of Health and Social Services, the Montréal Regional Health and Social Services Agency, and local agencies and organizations responsible for the delivery of care. SIPA is an example of a full integration model of service delivery with a strong emphasis on community based interventions.[590] Under this model of service delivery, a local organization is responsible for clinical and financial aspects of delivery of all health and social care. The responsibility of care is handled by a case manager and a multi-disciplinary team consisting of a family physician, nurses, social workers, occupational therapists and physiotherapists, nutritionists, visiting homemakers and community organizers.[589] This team delivers primary health and social care. Institutional-based care contracted out some of the services to other organizations. This model usually functions within the existing health and social care structure. The SIPA study ran for a 22-month period (from June 1, 1999 to March 31, 2001) and involved a group of 1,230 frail elderly persons aged 65 and older with functional disabilities.[589]

The results of the SIPA study showed that, on average, community costs were higher in the SIPA group but institutional costs were lower. As such, there was no significant difference in the total overall costs per person in the two forms of care. SIPA's ability to reduce the institutional costs, in areas such as emergency, hospitalization, and permanent housing was due to the SIPA case managers' ability to support patients release from the hospital and facilitate care and services at home through the use of community resources. Secondary analyses showed that outpatient cost was reduced by $5000 on average over the 22-month period for SIPA participants with moderate to high level of disability. Costs for nursing homes were reduced by $14,500 for participants living alone and with five chronic diseases or more.[594] Satisfaction was also increased for SIPA caregivers with no increase in caregiver burden or out-of-pocket costs.[589]

The **PRISMA** model was developed by the PRISMA research group from the Université de Sherbrooke. PRISMA is an example of a coordinated approach to integrated health care. This model of health care functions within the existing health care system, whereby organizations have their own structures but agree to participate in an "umbrella" system and to adapt its operations and resources to set processes.[591, 592] The PRISMA study was conducted over a four- year period and worked to develop and assess tools to facilitate and support the integration of services concerned with maintaining the autonomy of frail elderly persons 75 years of age and older.[591-593]

An evaluation of the study found that functional decline and unmet needs of study participants were reduced in comparison to control group participants and satisfaction and empowerment scores increased. As well, caregiver burden was significantly lower in the study group.[591, 592] The findings of PRISMA concluded that this model of integrated services helped maintain the independence of the elderly, as well as led to better utilization of health care services without increasing costs to the health care system.[593] As a result of the promising results of PRISMA, the Government of Quebec, Ministry of Health and Social Services, has decided to generalize the model to the entire province.[591, 592]

Both of these studies suggest that models of integrated services, either full integration or coordination, for frail elderly appear to be feasible and have the potential to reduce the use of institution-based services without increasing the overall cost and quality of health care, or increasing the burden on elderly people and their families.[589, 591, 593] As well,

both models helped to support and maintain the independence of frail elderly.

In 2007, the Canadian Institutes of Health Research (CIHR) awarded the Solidage and PRISMA research groups a joint research grant of $3.7 million dollars. The objectives the CIHR Team in Frailty and Aging project will be to understand the components, processes and consequences of frailty in the elderly population; to promote integrated care for frail older persons by modifying professional practices and developing patient assessment tools; and to develop programs and strategies to enhance the use of population health evidence, management and clinical tools within integrated social and health care settings.[595]

Textbox 4.14 Providing long term care – the Japanese experience

In considering seniors' health care in other countries, it is worth examining Japan. The Japanese have the highest life expectancy of any country (82.6 years in 2007), with the elderly representing about 20% of the overall population in 2005. This proportion is expected to increase to almost 30% in 2025.[596, 597] As such, the Japanese health care system has had to evolve to handle the challenge of a rapidly aging population. At the time that Japan was establishing a national health care system, it could build on the experiences in other countries as well as anticipate its aging population and its care needs.

The Japanese universal health care system is structured to provide every resident with health insurance. The national health insurance plan for the elderly is funded in part by employee health insurance and National Health Insurance, as well as by the government. In terms of basic health services, this system ensures that all seniors have access to high-quality treatment at low personal cost. As a consequence, the Japanese make frequent visits to their doctors (about 14 per year), which results in long wait times and limits the amount of time a doctor has with each patient.[598]

To serve those elderly citizens requiring regular care/support, a long-term care insurance system was established in 2000. However, for seniors to make use of their long-term care insurance, they must first obtain "long-term care certification". This process involves applying to the municipality where the insurer is based. Medical, hygiene and welfare experts examine the applicant's health, determining what level of care/support is necessary and what in-home and/or care facility services the applicant may use.[588]

On the rise in Japan is licensed private senior housing (LPSH). These are similar to North American assisted living facilities but are required to meet government specifications about unit size and services. About 75% are owned/operated by for-profit entities, including major corporations. Recently, the number of such facilities has increased (from 350 to 1,144 between 2000 and 2005), largely due to a provision in the Long-Term Care Insurance Law of 2000 that allowed those elderly living in LPSH to benefit from long-term care insurance. Demand for these facilities is reportedly on the rise, as wealthier seniors seek higher-quality care and to avoid the longer waiting lists for government-operated long-term care facilities. As a recent development, it is not yet certain whether LPSH is a viable business venture for those for-profit corporations. With a reported average gross margin of 4.9%, it could be that LPSH costs will increase, further limiting those who can afford such services.[599]

In weighing one option over the other, it is important to consider quality of care provided. The universal health care system is accessible to all, but high volume of patients affects the quality of service provided to each one, due to limited capacity to service. On the other hand, private housing is not as widely accessible or affordable. Also, studies have shown that for-profit nursing homes can have a lower quality of care than those operated by not-for-profit entities.[600] Taking this into consideration, as improving access and publicly owned facilities occurs, it is important to ensure that facilities have the staffing quality and capacity to manage an increase in demand for their services.

Setting Conditions for Healthy Aging

Summary

The areas highlighted in this chapter (meeting basic needs, aging in place of choice, falls prevention, mental health, abuse and neglect of seniors, social connectedness, healthy living practices, and access to care and services) are critical areas where Canada, as a society, can make a difference in creating the conditions for healthy aging. While there are proven and promising interventions, there are also many gaps in knowledge, information and best practices. As a result, it is evident that there is more to know and more to do.

Falls among seniors are often preventable and therefore initiatives that support falls prevention can significantly improve the health and well-being of Canada's seniors. Falls prevention guidelines establish and promote safer practices and more universal style designs. Establishing safe and barrier-free environments and supporting conditions for physical activity to increase strength, flexibility and balance can make a difference in reducing falls. Broader awareness and education of what can be done by individuals and health care professionals can also reduce the risk of falls.

Not enough is known about the mental health of Canada's seniors. Education and awareness programs are working to dispel myths about aging and mental health, and to break down associated stigmas. Senior-specific initiatives and strategies are important to address and manage mental health and mental illness among seniors and their families and caregivers. As well, broad mental health strategies are needed for all Canadians.

Addressing the complex issue of abuse and neglect of seniors involves a range of activities such as applying laws and raising awareness of rights within these laws. Broad awareness and education programs are working to help caregivers and seniors understand what constitutes abuse with the aim of preventing such incidents, while additional efforts can assist professionals and individuals identify cases of existing abuse and how to respond appropriately. However, many people remain uninformed, and more work is required to develop and populate knowledge networks and reduce stigmas and blame that can become barriers to addressing the problem. Communities can play a strong role in preventing abuse and neglect of seniors.

There are positive impacts on the health of seniors who take an active role in their community and who are socially engaged. Interventions that encourage seniors to become involved in group activities can have positive health outcomes. So, too, can efforts around the creation of age-friendly cities and communities, inclusive design and the eradication of ageism that can all contribute to social inclusion. Volunteering can also impact health positively by allowing seniors to remain socially connected and by recognizing their value in terms of the benefits to all of society (economically, socially and otherwise) realized from their contribution to the voluntary sector. As such, more needs to be done to encourage, keep and invest in Canada's senior volunteers.

Engaging in healthy behaviours requires raising awareness of the benefits associated with these behaviours. However, programs such as physical activity guidelines and smoking cessation initiatives need to be specific to seniors' unique situations. As well, engaging in healthy practices depends on having environments that are safe, barrier-free and attractive. It is also important to not only understand the benefits of healthy behaviours but also to be knowledgeable about health information.

The various levels and transitions between seniors' care services are complex. Seniors can experience difficulties in accessing, affording and deciding on care. There are many levels of care and within these levels some interventions are working toward planning and managing transitions associated with change in need. Some jurisdictions have made progress with broad strategies to meet the needs of seniors, as well as to support caregivers, but efforts must continue. Better awareness and understanding around levels of care and options within communities would support seniors and address the needs of caregivers and the impacts of caregiving. Better support for research in areas such as palliative care would also be of benefit. Further, best practices found across jurisdictions may prove valuable lessons to future efforts in this area.

In fact, the promising interventions and initiatives profiled in this chapter illustrate the broad range of sectors in society that can make a difference in identifying and implementing effective programs with measurable outcomes. These efforts provide a starting point from which to draw inspiration, think, plan and act, however, more work remains. One area where progress is needed is in the active inclusion of seniors themselves. Their insights based on varying needs, experiences, skills and abilities will go far in creating strategies and interventions that most effectively contribute to healthy aging in Canada. Chapter 5 highlights priority areas to collectively work toward healthy aging in Canada.

Toward Healthy Aging

CHAPTER 5

Over time, Canada has created many of the conditions necessary for healthy aging. As a result of societal changes and the progress made in areas such as public health, health care, living conditions, social norms and individual choices, Canada has a vibrant aging society and one of the highest life expectancies in the world.

Through planning and foresight, Canada has made substantial in-roads in preparing for an aging population. In fact, the Organisation for Economic Co-operation and Development has indicated that Canada is in a good position to adapt to its aging population given the reforms that have strengthened the financial stability of seniors.[305] Still, there are some persistent and emerging issues that can negatively influence the current and future health of Canada's seniors.

Ensuring that Canada's seniors can meet basic needs is fundamental to addressing the health issues facing this population. Without those needs being met, opportunities to maximize health or to develop safe and supportive communities that encourage healthy aging are not fully effective.

It is also important to note that what works for one community or individual may not work for another. However, we can do better to ensure there is a continuum of care across the lifecourse and that this care addresses the range of needs of Canadians. Information-sharing is critical to determine if there are ideas and solutions that could be more broadly implemented. Evidence from other countries and jurisdictions shows that negative outcomes related to seniors' health can be successfully reduced or mitigated. Canada can learn from and adapt these lessons as we continue to address the health of seniors.

Priority areas for action

The evidence profiled in this report indicates that there are areas in which Canada can move forward in creating, improving and maintaining the conditions for healthy aging. This chapter outlines priority areas for action where efforts to advance the conditions for aging well can make a difference to the health and well-being of Canadian seniors. These priority areas are:

- tackling issues of access to care and services;
- improving data and increasing knowledge on seniors' health;
- valuing the role of seniors and addressing ageism;
- targeting the unique needs of seniors for health promotion;
- building and sustaining healthy and supportive environments; and
- developing a broad falls prevention strategy.

Tackling issues of access to care and services

While Canada has had success with long-term, acute and emergency care, there are gaps in ensuring seniors have access to a continuum of care – from home to palliative care. As well, the level of care varies across Canada. Underserviced communities may not have the resources to meet the needs of seniors with chronic and/or declining health conditions. Assisted living arrangements, long-term care facilities palliative and end-of-life care need to consider how to provide culturally sensitive services that meet the needs of Aboriginal and immigrant seniors.[274] As well, seniors who have to navigate, manage,

make decisions and pay for a range of care services often experience difficulties coordinating all of the various pieces to ensure they are receiving the appropriate care and services.

Difficulties also occur in the transition between care providers as seniors move from home-based care to assisted living and/or long-term care. Challenges to receiving care in Canada include the growing demand for health care services, the difficulty in accessing care services (including home care), the ability to age in the place of one's choice and a lack of support for caregivers. To strengthen care services requires that they be linked with broader social and community services to ensure a coordinated approach. It is also imperative, as a fair and compassionate society, that all seniors in Canada have access to quality, basic care and services regardless of income level.[274]

Informal care, given by family, friends and peers, offers seniors opportunities to age in the place of their choice and retain some independence and sense of community. As such, informal caregivers play a vital role in caring for seniors and reduce the burden on health care systems and professional caregivers. Canada has made progress in recognizing this contribution through the tax system, as well as by providing job protection and increasing work flexibility through labour codes and programs such as Canada's Employment Insurance Compassionate Care Benefit and local community supports and services. However, there are limited mechanisms beyond this to support informal caregivers in Canada. Issues continue to exist related to the provision of unpaid care and the need for mental and emotional support for caregivers. Evidence points to the need for broader societal recognition of the important role that caregivers play, which can translate to better access to supports/services (e.g. respite, financial, information) and flexible workplace environments. Measures such as these can allow caregivers to continue with their efforts to provide valuable and essential care to some of the most vulnerable members of our society.[601]

Many seniors may have received good dental care earlier in the lifecourse due to employer health insurance plans and greater access to services. However, management of oral health care can often decline with age due to issues with access and affordability.[270, 506, 507] Given the overall importance of dental health to overall health and well-being, it is important that as a society, we consider how to ensure that seniors have access to quality dental care across the lifecourse.

To address these issues, the care of seniors needs to be part of mainstream health care, with comprehensive and integrated systems involving a broad range of services to address the varying needs of seniors. Access to quality care that meet basic needs must also be achieved without differences in accessibility, eligibility and cost. It is clear that an integrated strategy within a Canadian context may be difficult to achieve given the federal/provincial/territorial environment within which it would be required to operate. Nevertheless, it is an area that requires additional thought and effort.

Improving data and increasing knowledge on seniors' health

Data on seniors' health and the effectiveness of existing programs are lacking. More and better data and information are needed in order to identify long-term trends, future concerns and the effective initiatives, interventions and strategies that could be expanded or adapted in future.

As noted in Chapter 4, a better understanding of the health of Canada's seniors would be beneficial to creating conditions for aging well – especially in certain areas such as abuse and neglect where little is known about the extent of the issue. This may be due to a lack of understanding about what constitutes abuse and neglect and the associated laws that criminalize abusive behaviour.[431] Preventing abuse and neglect involves raising awareness and changing attitudes but efforts could be better targeted and more effective if more data on the issue were available. To begin to address this issue, Human Resources and Skills Developing Canada is funding a two-year project entitled Defining and Measuring Elder Abuse and Neglect: Preparatory Work Required to Measure Prevalence of Abuse and Neglect of Older Canadians in Canada starting in 2010. This project, being led by the National Initiative for the Care of the Elderly, will further develop the knowledge base of definitional, methodological and ethical issues concerning

the measurement of elder abuse in Canada. This work will help inform the future development of Canadian surveys or smaller studies on the prevalence of abuse and neglect of older adults in community and institutional settings, as well as further identify risk and protective factors.

Other areas where information and data are lacking are mental health issues facing seniors and seniors' dietary habits. Similarly, more research would be useful to better understand why some seniors are resistant to physical activity in order to create efforts to overcome these barriers.

To address the need for better data collection and information on seniors' health, the Canadian Institute of Health Research's Institute of Aging is developing the *Canadian Longitudinal Study of Aging*. This is a national long-term study that will follow approximately 50,000 Canadian men and women between the ages of 45 and 85 for a period of at least 20 years.[602] This comprehensive research effort will collect information on the changing biological, medical, psychological, social and economic aspects of people's lives as they age. It will also consider lifecourse factors in order to understand their impacts on health and the development of disease and disability. One of the aims of the research is to understand successful aging by capturing associated transitions, trajectories and profiles. Another longer-term goal is to build capacity for sustained research on aging in Canada.[602, 603]

Also of note is the *Canadian Community Health Survey's Healthy Aging* (2009) module that collected survey data about the factors, influences and processes that contribute to healthy aging. Efforts focused on the health of Canadians aged 45 years and older, and the various health, social and economic factors that determine healthy aging (including general health and well-being, physical activity, use of health care services, social participation, and work and retirement). Ultimately, the goal is to provide valuable information to researchers and decision-makers that can better support policy making to ensure that Canadians have the most appropriate policies and programs in place.[604]

Having knowledge on and identifying best practices to promote healthy behaviours is important in addressing seniors' health in Canada. To do this effectively, information needs to be shared among individuals, researchers and practitioners as well as across communities, jurisdictions and sectors. Sharing information and best practices can showcase successful interventions and the lessons learned, which can inspire and motivate others. Knowledge networks can facilitate information-sharing among interested stakeholders and across sectors and jurisdictions by creating opportunities for coordination and cooperation.

Progress on this front in Canada includes efforts by the Canadian Network for the Prevention of Elder Abuse which allows members to share information to identify current and emerging issues, develop strategies and frameworks and share information and best practices across and within local, provincial, territorial, national and international communities. The National Initiative for the Care of the Elderly (NICE) also promotes information-sharing though its national network of researchers and practitioners involved in the care of seniors through medicine, nursing, social work and other allied health professionals. NICE works to help close the gap between evidence-based research and actual practice.[392, 447]

Future efforts to share information and knowledge are also being planned as part of the Mental Health Commission of Canada's *National Mental Health Strategy* currently under development. The proposed strategy includes the creation of knowledge networks and broad education/awareness and anti-stigma campaigns. By further developing and strengthening a mental health knowledge network, practitioners in Canada, as well as seniors and their families, can share information and best practices and provide information to individuals on practices, guidelines and support strategies.[376, 377]

In addition, the eventual adoption of electronic health records will help in bettering our understanding of seniors' health needs, identifying potential cases of misuse of medications or health hazards associated with drug interactions, and likely improving continuity of care and the management of chronic conditions.[274] The benefits of electronic health records to senior's health should be further investigated.

Valuing the role of seniors and addressing ageism

Seniors play a critical role in society and make a significant contribution to Canada's economy as employees, volunteers, caregivers and taxpayers. With the growth in population of those aged 65 years and older, this important contribution can be expected to increase. If Canadians are to age well, they must have the opportunity for physical, social and mental well-being across the lifecourse as well as the ability/capacity to participate in society and to have needs met when required.

One factor often impeding participation and contribution by seniors is ageism – a negative view of aging that devalues seniors based on the mistaken belief that they have little to offer.[274, 475] Changing these views is critical to creating conditions for healthy aging.

Efforts to address ageism should give consideration to issues of caregiving, as discrimination can be associated with those who live in institutional settings. Supporting caregiving options and placing positive value on aging and care for seniors is important to ensuring Canadians understand and appreciate the significant role seniors play in our society and that the appropriate mechanisms are in place to address physical and mental health issues associated with aging.

As we have seen earlier in this report, Aboriginal Elders are the cornerstone of their communities. Elders have the responsibility of passing on and carrying forward their wisdom, historical and cultural knowledge and language, and in playing an integral role in the health and well-being of their families, communities and nations. As a society we can learn from the Aboriginal view of Elders and the respect they are shown within their culture.

Canada would do well to consider how we can better recognize the value of seniors in our society. As well, all sectors have a role to play in creating further opportunities for individuals to participate in paid and unpaid activities, encouraging participation in civic duties by addressing barriers to social interaction, and supporting practices for early interventions, prevention and care.[12, 605]

Targeting the unique needs of seniors for health promotion

Seniors are a diverse population and not enough has been done to specifically target health promotion to them. As a result, the effectiveness of such programs among seniors has been limited. More applied research is necessary to develop and test interventions specifically targeted to seniors. As well, vigorous evaluations must be conducted to ensure that we are achieving the desired results. Although Canada has developed *A Guide to Physical Activity for Older Adults*, more is required to reach those who remain unaware of the benefits of physical activity as a part of healthy aging and to motivate and support seniors who may experience barriers associated with engaging in physical activity.

In addition to physical activity, healthy eating habits and nutrition can also help prevent illness and may reduce the necessity for medications and health care services over time.[180] The unique nutritional needs of seniors must be considered in all programs and policies. Oral health is also an issue as people age. As noted, poor oral health can lead to illness, disease and poor nutritional intake.[268, 505, 506] Awareness campaigns on the benefits of good oral health across the lifecourse that are specifically targeted to seniors would be of benefit, as would efforts

to ensure dental health providers promote good dental health practices to patients of all ages. Steps can also be taken to better integrate oral health into public health frameworks.

Another important area requiring a targeted approach is mental health. As noted in Chapter 3, mental health issues among seniors can be misunderstood as a natural part of aging. While there are many policies, programs and initiatives in place in Canada around mental health, work to date has primarily been focused on younger adults. As we move forward, it will be important to ensure that mental health strategies have a seniors' component. Decision-makers need to: support research into effective seniors' mental health initiatives and anti-stigma campaigns; increase public education and professional training; and plan for an aging population with current and possible future prevalence of mental health issues that will require prioritization and investment of increased resources in seniors mental health. This is especially true of seniors in long-term care, where the majority of residents have been found to have a cognitive and/or mental health disorder.[206, 207, 388] With more seniors requiring long-term care in the future more effort is warranted, and the needs of subpopulation groups such as Aboriginal and immigrant seniors must be considered.

As well, given that the majority of seniors suffer from some type of chronic condition or other health problems, their need for adequate health literacy is vital in order to deal with daily issues related to those problems. All levels of governments have a responsibility to address health-literacy challenges. Governments can apply plain-language principles to all health information and related services. There is also a responsibility to monitor effectiveness of these actions to ensure needs are being met. Gathering information on health literacy trends and issues is necessary to continue providing effective support for those in need.

Building and sustaining healthy and supportive environments

The need for healthy and supportive environments is at the core of healthy aging. All Canadians have a role to play in establishing and maintaining these environments so that their benefits can be felt across the lifecourse. Community planners and leaders, for example, can ensure opportunities exist for recreation, physical activity, civic participation, and safe and healthy transportation. Canada has had some success in developing communities that promote healthy aging by establishing the Age-Friendly Communities Initiative and the Age-Friendly Rural/Remote Communities Initiative. Still, many Canadian seniors do not have the support to age in the place of their choice due to a variety of factors such as finances, health status and lack of support and services. Support is especially needed for those living underserviced areas of the country. More research is required to measure the effectiveness of age-friendly initiatives and the extent to which they address the needs of different multicultural groups.

When seniors are living in unsuitable or unsafe environments, we must take action. This includes meeting language and cultural needs of seniors, as well as ensuring there are appropriate home care and long-term care options so that seniors can choose where they grow old. Our country has made progress on providing supportive environments for vulnerable seniors. In particular, legislation has been developed to protect the rights of all Canadians and to identify and address risks for abuse and neglect. On every level and at every stage of life, a healthy and supportive environment is imperative to health and well-being. We can and must do more to ensure Canada's seniors have the opportunity to thrive in healthy, safe and nurturing surroundings.

The inclusion of issues related to seniors in broad mental health plans and health promotion strategies is an important component of creating greater understanding and more supportive environments for seniors.

Developing a broad falls prevention strategy

There is a lot of information that exists on falls prevention for seniors in Canada and many initiatives that show promise and could be applied more broadly, but more evaluation is required. Addressing falls prevention is an area where more effort would clearly have an impact given that the majority of injuries to seniors are the result of falls.[148] Collaboration and intersectoral action is key to these efforts. Much has been done by various levels of government and on the part of professional organizations, however recognition of best practices

and coordination of efforts is required. As well, new approaches to falls prevention need to be developed and robustly evaluated to ensure they are effective and reach those who are most at risk.

In addition, although a number of falls prevention guidelines have been developed, no broad national guidelines currently exist. Establishing such guidelines is important because they can set standards and highlight the need for early assessments, management of environments, removal of barriers and change behaviours. To be effective, national guidelines would need to include the clinical management of chronic and acute illness, involve knowledge of drug interactions and consider safe environments to address home safety issues. Complementary to these efforts would be broad education and awareness campaigns around risks for falls and falls prevention.

A way forward

As a society, Canada needs to incorporate healthy aging into public policy, continue to invest in and support programs that contribute to healthy aging and identify worrying trends among younger populations so that opportunities to make a difference to the future of healthy aging can be achieved across the lifecourse. It is clear that aging well benefits all Canadians by ensuring everyone has the opportunity to be active, engaged and healthy for as long as possible. The individual, family, community and societal roles highlighted in this report demonstrate that much can be done at every stage of the lifecourse to reap improvements in health and well-being. As our country faces an increase in the number of seniors, we need to determine how best to manage our efforts so that they are effective and meaningful. Solutions lie in what we can do for seniors now and earlier in the lifecourse to impact the health and well-being of seniors in the future.

Our efforts must be focused on addressing the persistent and emerging issues highlighted in this report that are affecting the health of Canada's seniors. At the very least, we must ensure that we are meeting the basic needs of seniors. We must also continue to monitor falls, injuries, and abuse and neglect to ensure that risks are being minimized. The mental health of seniors needs to be better understood and evidenced-based interventions that promote mental health and/or address mental health problems need to be shared and supported. As well, situations of abuse or neglect must be prevented to ensure that all seniors are protected from harm and live in safe and respectful environments. Actions must be balanced between targeted and universal programs and must be coordinated and multi-pronged to effectively address Canada's extensive geography, diversity and vulnerable populations. They must also be sustained over time and not limited to short-term results. Canada needs to build on existing initiatives and measure their impacts so we are better able to effect change. Understanding what makes some programs and initiatives work and then building strategies to move forward is the challenge we face if we want to continue to make progress on the health of seniors in Canada. Failing to take action will have an impact on all Canadians as they move through the lifecourse. As a society, we can build on our existing momentum and be a leader in senior's health and healthy aging to ensure that all Canadians are able to maintain their well-being and quality of life throughout their senior years.

- From Words to Action -

I wrote this report in order to build awareness of the state of Canada's aging population and to highlight the importance of taking action now to make a difference for this population – now and for the future. I wanted this Report to emphasize that aging should not be viewed as a negative phenomenon where a decline in physical and mental health is inevitable. Instead, aging should be valued and the quest for a long life in good health should be taken up early in the lifecourse. I also saw this Report as an opportunity to pay special attention to areas in which Canada is making progress.

Canada has helped secure significant health gains for our aging population through reducing and managing the prevalence of infectious diseases, understanding the factors that influence health, and investing in social infrastructure. Still, there are many worrying and persistent issues that can reduce the effect of these successes. Further, aging is a global challenge that presents unique opportunities for us now. As a society, Canada can build momentum and be a leader on the world stage in the area of healthy aging if every sector of society does their part.

American writer Frank A. Clark once said "We've put more effort into helping folks reach old age than into helping them to enjoy it." Our goal to ensure all Canadians have the opportunity to age well can only be fully achieved if we undertake a shift in our perception of aging to recognize it as a time in life deserving of individual celebration and society-wide appreciation.

In my capacity as Chief Public Health Officer, I will:

- Work with my federal colleagues and other sectors to promote and develop policies that support healthy aging;
- Monitor the health of Canada's aging population and improve data and knowledge-sharing in this area;
- Work with all counterparts to ensure the health care system is flexible enough to respond to the diverse needs of seniors and an aging population;
- Ensure work continues to change attitudes about aging and acknowledge the extensive contributions made by Canadian seniors through supportive environments;
- Continue to invest in and support public health initiatives in seniors' health and efforts to address their basic needs; and
- Ensure seniors are included in all efforts made to achieve healthy aging in Canada so that their experience and wisdom can benefit all Canadians in the years to come.

— Dr. David Butler-Jones

Textbox 5.1 Frank and Marie's story

In the coming years, Canada will experience a demographic shift that will result in a large population over the age of 65. How Canada, as a society, addresses this change will have a significant impact on the quality of life for many of our seniors.

Let us consider a fictional couple, Frank and Marie. They live in a newer neighbourhood in a mid-sized Canadian city. At 79 and 74 years of age respectively, Frank and Marie are lucky that they still live at home in the house they purchased 12 years ago. Their children and grandchildren live nearby and provide a lot of support, but they have busy lives and Frank and Marie do not like to call on them too often. The couple also receives support from several of their doctors. On the advice of their family physician, Frank has just purchased a brand new walker so that he is able to get some exercise, fresh air and participate in the day-to-day activities of shopping, family celebrations and outings through the seniors' group in his community.

Frank and Marie live in a two-storey townhouse, which makes mobility an issue for Frank. The couple cannot afford to move into more appropriate accommodations nor can they afford to add a lift for their stairs to safely move between levels. The walker must be used at all times as Frank's balance is not good due to a series of minor strokes. On this particular day, Frank and Marie decide to run some errands and, after much struggle, both Frank and the new walker are on the main floor heading out the door. Once out into the neighbourhood, there are only streetlights at the intersections and no sidewalks until they reach a main road. Even then, the sidewalks are cracked and uneven making it difficult to see clearly and move the walker forward. If the couple are to walk side by side, Marie must walk on the road.

After several rests they make it to the small shopping centre near their home, but it has taken much longer than anticipated. The couple shop for necessities, pick up prescriptions and take a moment to sit for a cup of tea before it is time to begin the trek back. Once home, they are both exhausted and from start to finish the outing has taken the better part of four hours. Frank and Marie wish walking in the community and running errands were a whole lot easier and dread the thought of repeating this exercise in inclement weather.

What if...

The city had better information and data that they could have accessed for planning purposes? Imagine if city planners had known that almost 57% of the residents in the new development were going to be over 50 years of age. Perhaps this would have had an impact on the types of lighting, sidewalks and housing styles developed in the neighbourhood. Accessible public transportation may have been more readily available so that Frank and Marie would not have to walk under dangerous conditions. And the local community centre could have considered establishing age-appropriate exercise programs for local residents to help with balance and strength issues.

What if...

Frank and Marie had a single point of contact to help answer questions and navigate "the system." Imagine if Frank had been assigned a caseworker who had been able to help the couple apply for a grant to have a lift added to the stairs in their home, or made them aware of door-to-door transportation for the disabled and helped them fill out the appropriate paperwork needed to access this service. Or if their home had been designed so that at least one bedroom and a bathroom were available on the ground floor.

What if...

There were supports in place to ensure that Marie, who provides care to Frank, does not put her own physical and mental health at risk by caring for her husband. Imagine if Marie had access to a support network and respite care to allow her to have balance in her own life. These changes would give Frank and Marie a better quality of life and the ability to more easily participate in their community.

Communities that are more aware of population needs can better accommodate age-specific requirements and priorities. This would result in more efficient use of resources and, ideally, more effective collaborative initiatives to address the needs of residents.

List of Acronyms

APPENDIX A

AD	Assistive devices
ADL	Activities of daily living
ADRD	Alzheimer's disease and related dementias
ALIVE	Active Living in Vulnerable Elders
AMD	Age-related macular degeneration
BMI	Body mass index
BNSS	Bringing Nutrition Screening to Seniors
CAOT	Canadian Association of Occupational Therapists
Candrive	Canadian Driving Research Initiative for Vehicular Safety in the Elderly
CCHS	Canadian Community Health Survey
CCSMH	Canadian Coalition for Seniors' Mental Health
CDHA	Canadian Dental Hygienists Association
CDI	*Clostridium difficile* infection
CDKTN	Canadian Dementia Knowledge Translation Network
CHMS	Canadian Health Measures Survey
CIHR	Canadian Institutes of Health Research
CMHC	Canada Mortgage and Housing Corporation
CPHO	Chief Public Health Officer
CPP	Canada Pension Plan
EI	Employment Insurance
FEAI	Federal Elder Abuse Initiative
FNIHCC	First Nations and Inuit Home and Community Care
GAINS	Guaranteed Annual Income System
GIS	Guaranteed Income Supplement
HAI	Healthcare-associated infections
HRSDC	Human Resources and Skills Development Canada
iDAPT	Intelligent Design for Adaptation, Participation and Technology
IHD	Ischemic heart disease
LPSH	Licensed private senior housing
MHCC	Mental Health Commission of Canada
MRSA	Methicillin-resistant *Staphylococcus aureus*
NACA	National Advisory Council on Aging
NAHO	National Aboriginal Health Organization
NHSP	New Horizons for Seniors Program
NICE	National Initiative for the Care of the Elderly
OAS	Old Age Security
OECD	Organisation for Economic Co-operation and Development
PHAC	Public Health Agency of Canada
PIP	Pharmaceutical Information Program

APPENDIX A

List of Acronyms

PRISMA	Program of Research to Integrate Services for the Maintenance of Autonomy
QPP	Quebec Pension Plan
RCMP	Royal Canadian Mounted Police
RRSP	Registered Retirement Savings Plan
SAYGO	Steady As You Go
SCREEN	Seniors in the Community Risk Evaluation for Eating and Nutrition
SES	Socio-economic status
SIPA	System of Integrated Care for Older Persons
SMART	Seniors Maintaining Active Roles Together
SMHPL	Seniors' mental health policy lens
SPA	Spouse's Allowance
UN	United Nations
UTA	University of the Third Age
VIP	Veterans Independence Program
VON	Victorian Order of Nurses
VRE	Vancomycin-resistant *enterococcus*
WHO	World Health Organization

Indicators of Our Health and Factors Influencing Our Health

APPENDIX B

		Year
Who we are[1] (million people)		
Population (as of July 1, 2009)	33.7	2009
Aboriginal	*1.17*	*2006*
First Nations	*0.70*	*2006*
Métis	*0.39*	*2006*
Inuit	*0.05*	*2006*
Immigrant	*6.2*	*2006*
By birth place		
Asia and the Middle East	*2.53*	*2006*
Europe	*2.28*	*2006*
Africa	*0.37*	*2006*
Caribbean and Bermuda	*0.32*	*2006*
South America	*0.25*	*2006*
United States of America	*0.25*	*2006*
Central America	*0.13*	*2006*
Oceania and other	*0.06*	*2006*
By years since immigration		
Recent (<= 10 years)	*2.0*	*2006*
Long-term (>10 years)	*4.2*	*2006*
Urban population	*25.3*	*2006*
Our health status		
Life expectancy and reported health[1]		
Life expectancy (years of expected life at birth)	80.7	2005-2007
Health-adjusted life expectancy (years of expected healthy life at birth)	*69.6*	*2001*
Infant mortality rate (under one year) (deaths per 1,000 live births)	5.1	2007
Excellent or very good self-rated health* (percent of the population aged 12+ years)	58.9	2008
Excellent or very good self-rated mental health* (percent of the population aged 12+ years)	74.4	2008
Leading causes of mortality[2] (deaths per 100,000 population per year)		
Circulatory diseases	211.9	2006
Cancers	208.1	2006
Respiratory diseases	58.5	2006
Causes of premature mortality, ages 0 to 74 years[1] (potential years of life lost per 100,000 population per year)		
Cancers	*1,574*	*2001*
Circulatory diseases	*854*	*2001*
Unintentional injuries	*587*	*2004*
Suicide and self-inflicted injuries	*372*	*2004*
Respiratory diseases	*162*	*2001*
HIV	*46*	*2001*
Causes of ill health and disability		
Living with chronic diseases		
Cancer incidence[1] (new cases per 100,000 population)	481.5	2006
Diabetes[2] (percent of the population aged 1+ years)	6.2	2006-2007
Obesity[1] (percent of the population aged 18+ years)	25.1	2008
Arthritis*[1] (percent of the population aged 12+ years)	15.3	2008
Asthma*[1] (percent of the population aged 12+ years)	8.4	2008
Heart disease*[2] (percent of the population aged 12+ years)	4.9	2008
High blood pressure*[1] (percent of the population aged 20+ years)	23.4	2008
Chronic obstructive pulmonary disease*[2] (percent of the population aged 35+ years)	4.7	2008
Living with mental illness		
Schizophrenia[2] (percent of the population aged 12+ years)*	*0.3*	*2005*
Major depression[2] (percent of the population aged 15+ years)*	*4.8*	*2002*
Alcohol dependence[2] (percent of the population aged 15+ years)*	*2.6*	*2002*
Anxiety disorders[2] (percent of the population aged 15+ years)*	*4.8*	*2002*
Alzheimer's disease and other dementias*[3] (estimated percent of the population aged 65+ years)	8.9	2008

Indicators of Our Health and Factors Influencing Our Health

		Year
Causes of ill health and disability (continued)		
Acquiring infectious diseases[2] (new cases per 100,000 population annually)		
HIV (estimated number of new cases annually)	*2,300-4,500*	*2005*
Chlamydia	253.6	2009
Gonorrhea	31.0	2009
Infectious syphilis	4.7	2009
Factors influencing our health		
Income[1] (percent of the population based on 1992 low-income cut-off)		
Persons living in low-income (after-tax)	9.4	2008
Employment and working conditions[1] (percent of the population aged 15+ years)		
Unemployment rate	8.3	2009
Food security[4] (percent of the population aged 12+ years)		
*People reporting food insecurity**	*9.2*	*2004*
Environment and housing		
Ground-level ozone exposure[5] (parts per billion [population weighted warm season average])	38.7	2007
Fine particulate matter ($PM_{2.5}$) exposure[5] (micrograms per cubic metre [population weighted warm season average])	8.4	2007
Core housing need[6] (percent of the population)	*12.7*	*2006*
Education and literacy[1] (percent of the population aged 25+ years)		
High school graduates	82.0	2009
Some post-secondary education	62.3	2009
Post-secondary education	56.4	2009
Social support and connectedness[1]		
Very or somewhat strong sense of community belonging* (percent of the population aged 12+ years)	65.0	2008
Violent crime incidents (per 100,000 population)	*930*	*2007*
Health behaviours		
Current smoker*[4] (percent of the population aged 15+ years)	17.9	2008
Engaged in leisure time physical activity*[1] (percent of the population aged 12+ years)	50.6	2008
Fruit and vegetable consumption (5+ times a day)*[1] (percent of the population aged 12+ years)	43.7	2008
Heavy drinking (5+ drinks on one occasion at least once a month in the past year)*[1] (percent of the population aged 12+ years)	16.7	2008
Illicit drug use (in the past year)[4] (percent of the population aged 25+ years)*	*11.5*	*2004*
Teen pregnancy rate[1] (pregnancies per 1,000 female population aged 15 to 19 years per year)	*29.2*	*2005*
Access to health care[1] (percent of the population aged 12+ years)		
Regular family physician*	84.4	2008
Contact with dental professional*	69.4	2008

* Denotes self-reported data

Note: Italicized information denotes indicators that have not changed from the previous *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2009*. Some data may not be comparable. More detailed information can be found in Appendix C: Definitions and Data Sources for Indicators.

Sources: (1) Statistics Canada, (2) Public Health Agency of Canada, (3) Alzheimer Society of Canada, (4) Health Canada, (5) Environment Canada and (6) Canada Mortgage and Housing Corporation.

Definitions and Data Sources for Indicators

APPENDIX C

- A -

Aboriginal (2006)[606]

This is a collective name for the original peoples of North America and their descendants. The *Constitution Act* of 1982 recognizes three groups of Aboriginal peoples – Indians, Inuit and Métis – each having unique heritages, languages, cultural practices and spiritual beliefs.

Data Source
Table 3.1: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].
Appendix B: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

First Nations (2006)[606]

A term commonly used beginning in the 1970s to replace Indian. Although the term First Nation is widely used, no legal definition of it exists. Among its uses, the term 'First Nations Peoples' refers generally to the Indian Peoples in Canada, both Status and Non-Status.

Data Source
Table 3.1: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].
Appendix B: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

Inuit (2006)[606]

Inuit are the Aboriginal People of Arctic Canada who live primarily in Nunavut, the Northwest Territories and northern parts of Labrador and Québec.

Data Source
Table 3.1: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].
Appendix B: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

Métis (2006)[606]

A term which is used broadly to describe people with mixed First Nations and European ancestry who identify themselves as Métis, distinct from Indian people, Inuit or non-Aboriginal people.

Data Source
Table 3.1: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].
Appendix B: Statistics Canada. (2009-12-11). *Aboriginal identity population by age groups, median age and sex, 2006 counts for both sexes, for Canada, provinces and territories – 20% sample data* [Data File].

Alcohol dependence (2002)[205, 607]

Alcohol dependence is defined as tolerance, withdrawal, loss of control or social or physical problems related to alcohol use. This measure was estimated using the Alcohol Dependence Scale (Short Form Score) based on a subset of items from the Composite International Diagnostic Interview developed by Kessler and Mroczek for those aged 15 years and older.

Data Source
Appendix B: Government of Canada. (2006). *The Human Face of Mental Health and Mental Illness in Canada*.

Alzheimer's disease and other dementias (2008)[216, 608]

The DSM-III-R criteria were used to classify people as demented or not. Differential diagnoses used the NINCDS-ADRDA and DSM-IV criteria for Alzheimer's disease; the ICD-10 and the NINDS-AIREN criteria were used to define vascular dementia; operational criteria for Lewy body dementia were taken from McKeith et al. Those without dementia were classified as cognitively impaired but not demented (CIND), or as cognitively normal. Reisberg's Global Deterioration Scale was used for rating cognitive and functional capacity in all diagnoses.

Definitions and Data Sources for Indicators

Data Source
Table 3.2: Smetanin, P., Kobak, P., Briante, C., Stiff, D., Sherman, G., & Ahmad, S. (2009). *Rising Tide: The Impact of Dementia in Canada 2008 to 2038*; and Public Health Agency of Canada. (2009-01-14).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].
Appendix B: Smetanin, P., Kobak, P., Briante, C., Stiff, D., Sherman, G., & Ahmad, S. (2009). *Rising Tide: The Impact of Dementia in Canada 2008 to 2038*; and Public Health Agency of Canada. (2009-01-14).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].

Anxiety disorders (2002)[205]

Individuals with anxiety disorders experience excessive anxiety, fear or worry, causing them to either avoid situations that might precipitate the anxiety or develop compulsive rituals that lessen the anxiety. This measure was estimated using the criteria for experiencing panic disorder, agoraphobia and social anxiety disorder in the previous 12 months for those aged 15 years and older.

Data Source
Appendix B: Government of Canada. (2006). *The Human Face of Mental Health and Mental Illness in Canada*.

Arthritis (2008, 2009)[175]

Population who reported having arthritis, including rheumatoid arthritis and osteoarthritis, but excluding fibromyalgia, as diagnosed by a health professional.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Asthma (2008)[175]

Population aged 12 and over who reported having asthma as diagnosed by a health professional.

Data Source
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

- C -

Cancer incidence (2006)[130]

Number of people diagnosed with new primary sites of cancers.

Data Source
Table 3.2: Statistics Canada. (2009-07-29). *CANSIM Table 103-0550 New cases for ICD-O-3 primary sites of cancer (based on the July 2009 CCR tabulation file), by age group and sex, Canada, provinces and territories, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2009-07-29). *CANSIM Table 103-0550 New cases for ICD-O-3 primary sites of cancer (based on the July 2009 CCR tabulation file), by age group and sex, Canada, provinces and territories, annual* [Data File].

Cancers (2006)[107]

Deaths associated with malignant cancers (ICD-10 C00-C97) including but not limited to cancers of the lymph nodes, blood, brain and urinary tract.

Data Source
Table 3.2: Statistics Canada. (2010-05-03). *CANSIM Table 102-0522 Deaths, by cause, Chapter II: Neoplasms (C00 to D48), age group and sex, Canada, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2010-05-03). *CANSIM Table 102-0522 Deaths, by cause, Chapter II: Neoplasms (C00 to D48), age group and sex, Canada, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health

Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].

Chlamydia (2009)[609]

Estimated rate per 100,000 population, where Chlamydia (*Chlamydia trachomatis*) has been identified through laboratory testing.

Data Source
Appendix B: Public Health Agency of Canada. (2010-05-06). *Reported cases of notifiable STI from January 1 to December 31, 2008 and January 1 to December 31, 2009 and corresponding annual rates for January 1 to December 31, 2008 and 2009*.

Chronic obstructive pulmonary disease (2008)[610]

Respondents aged 35 years and older who reported having chronic obstructive pulmonary disease, chronic bronchitis or emphysema.

Data Source
Appendix B: Public Health Agency of Canada. (2008).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey 2008 (AC-SHR)*, prepared by Statistics Canada].

Circulatory diseases (2006)[114]

Deaths associated with circulatory diseases (ICD I00-I99) including but not limited to ischaemic heart disease, cerebrovascular diseases and pulmonary heart conditions.

Data Source
Table 3.2: Statistics Canada. (2010-05-03). *CANSIM Table 102-0529 Deaths, by cause, Chapter IX: Diseases of the circulatory system (I00 to I99), age group and sex, Canada, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2010-05-03). *CANSIM Table 102-0529 Deaths, by cause, Chapter IX: Diseases of the circulatory system (I00 to I99), age group and sex, Canada, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].

Contact with dental professional in the past 12 months (2008, 2009)[610]

Persons who have consulted with a dental professional in the past 12 months.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Public Health Agency of Canada. (2008).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey 2008 (AC-SHR)*, prepared by Statistics Canada].

Core housing need (2006)[611]

A household is in core housing need if it does not meet one or more of the adequacy, suitability or affordability standards and would have to spend 30 percent or more of its before-tax income to pay the median rate of alternative local market housing that's meets all three standards. Adequate housing does not require any major repairs. Suitable housing has enough bedrooms for the size and make-up of resident households according to National Occupancy Standard requirements. Affordable housing costs less than 30 percent of before-tax household income.

Data Source
Appendix B: Canada Mortgage and Housing Corporation. (2009). *2006 Census Housing Series: Issue 3 – The Adequacy, Suitability, and Affordability of Canadian Housing, 1991-2006*.

Current smoker (2008)[612]

Respondents who have identified themselves as daily smokers and non-daily smokers (also known as occasional smokers).

Data Source
Appendix B: Health Canada. (2009-08-13). *Canadian Tobacco Use Monitoring Survey (CTUMS) 2008 – Table 1. Smoking status and average number of cigarettes smoked per day, by age group and sex, age 15+ years, Canada 2008*.

Definitions and Data Sources for Indicators

- D -

Diabetes (2006-2007)[131]

Individuals were counted as having been diagnosed with diabetes when they had at least one hospitalization with a diagnosis of diabetes or had at least two physician visits with a diagnosis of diabetes within a two-year period.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). *Report from the National Diabetes Surveillance System: Diabetes in Canada, 2009*.
Appendix B: Public Health Agency of Canada. (2009). *Report from the National Diabetes Surveillance System: Diabetes in Canada, 2009*.

- E -

Engaged in leisure-time physical activity (2008)[175]

Population aged 12 and over who reported a level of physical activity, based on their responses to questions about the nature, frequency and duration of their participation in leisure-time physical activity. Respondents are classified as active, moderately active or inactive based on an index of average daily physical activity over the past three months. For each leisure-time physical activity engaged in by the respondent, average daily energy expenditure is calculated by multiplying the number of times the activity was performed by the average duration of the activity by the energy cost (kilocalories per kilogram of body weight per hour) of the activity. The index is calculated as the sum of the average daily energy expenditures of all activities. Respondents are classified as follows:

- 3.0 kcal/kg/day or more = physically active
- 1.5 to 2.9 kcal/kg/day = moderately active
- less than 1.5 kcal/kg/day = inactive

Data Source
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Excellent or very good self-rated health (2008, 2009)[175]

Population who reported perceiving their own health status as being either excellent or very good. Perceived health refers to the perception of a person's health in general, either by the person himself or herself, or, in the case of a proxy response, by the person responding. Health means not only the absence of disease or injury but also physical, mental and social well-being.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Excellent or very good functional health (2005)[141]

Population aged 65 years and over reporting measures of overall functional health, based on eight dimensions of functioning (vision, hearing, speech, mobility, dexterity, feelings, cognition and pain).

Data Source
Table 3.2: Statistics Canada. (2007-05-25). *CANSIM Table 105-0213 Functional health status, by age group and sex, household population aged 12 years and over, Canadian Community Health Survey (CCHS 2.1 and 3.1), Canada, provinces and territories, every 2 years* [Data File].

Excellent or very good self-rated mental health (2008, 2009)[175]

Population who reported perceiving their own mental health status as being either excellent or very good. Perceived mental health refers to the perception of a person's mental health in general. Perceived mental health provides a general indication of the population suffering from some form of mental disease, mental or emotional problems, or distress, not necessarily reflected in perceived health.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

- F -

Fine particulate matter ($PM_{2.5}$) exposure (2007)[613]

This indicator uses the warm seasonal average of 24-hour daily average concentrations, which is population-weighted to calculate trends and averages across monitoring stations located throughout the country.

Data Source
Appendix B: Environment Canada. (2010-06-02). *Air Quality Data Tables* [Data File].

First Nations (2006)

See Aboriginal

Fruit and vegetable consumption (5+ times a day) (2008)[175]

Indicates the usual number of times (frequency) per day a person reported eating fruits and vegetables. Measure does not take into account the amount consumed.

Data Source
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

- G -

Gonorrhea (2009)[609]

Estimated rate per 100,000 population, where Gonorrhea (*Neisseria gonorrhoeae*) has been identified through laboratory testing.

Data Source
Appendix B: Public Health Agency of Canada. (2010-05-06). *Reported cases of notifiable STI from January 1 to December 31, 2008 and January 1 to December 31, 2009 and corresponding annual rates for January 1 to December 31, 2008 and 2009*.

Ground-level ozone exposure (2007)[613]

This indicator uses the warm seasonal average of daily eight-hour maximum average concentrations, which is population-weighted to calculate trends and averages across monitoring stations located throughout the country.

Data Source
Appendix B: Environment Canada. (2010-06-02). *Air Quality Data Tables* [Data File].

- H -

Health-adjusted life expectancy (2001)[614]

An indicator of overall population health that combines measures of both age– and sex–specific health status, and age– and sex–specific mortality into a single statistic. It represents the number of expected years of life equivalent to years lived in full health, based on the average experience in a population.

Data Source
Table 3.2: Statistics Canada. (2007-05-17). *CANSIM Table 102-0121 Health-adjusted life expectancy, at birth and at age 65, by sex and income group, Canada and provinces, occasional (years)* [Data File].
Appendix B: Statistics Canada. (2007-05-17). *CANSIM Table 102-0121 Health-adjusted life expectancy, at birth and at age 65, by sex and income group, Canada and provinces, occasional (years)* [Data File].

Definitions and Data Sources for Indicators

Heart disease (2008, 2009)[610]

Respondents who reported having heart disease.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Public Health Agency of Canada. (2008).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey 2008 (AC-SHR)*, prepared by Statistics Canada].

Heavy drinking (5+ drinks on one occasion 12+ times in a year) (2008)[175]

Population aged 12 and over who reported having at least five drinks on a single occasion each month for the past 12 months.

Data Source
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

High blood pressure (2008, 2009)[610]

Respondents who reported having high blood pressure or having used blood pressure medication in the past month.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Public Health Agency of Canada. (2008).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey 2008 (AC-SHR)*, prepared by Statistics Canada].

High school graduates (2009)[258]

Persons who have received, at minimum, a high school diploma or, in Québec, a completed Secondary V or, in Newfoundland and Labrador, completed fourth year of secondary.

Data Source
Appendix B: Statistics Canada. (2010-01-06). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Custom Data File].

HIV (2005)[615]

The number of new HIV infections occurring in 2005.

Data Source
Appendix B: Public Health Agency of Canada. (2007). *HIV/AIDS – Epi Updates 2007*.

- I -

Illicit drug use (in the past year) (2004)[616]

Illicit drug use by persons aged 25 years and older, in Canada, who have used illicit drugs (cannabis, cocaine, speed, ecstacy, hallucinogens or heroin) within the past year.

Data Source
Appendix B: Health Canada. (2007). *Canadian Addiction Survey – A National Survey of Canadians' Use of Alcohol and Other Drugs*.

Immigrant (2006)[617]

Applies to a person who has been granted the right to permanently live in Canada by immigration authorities. It usually applies to persons born outside Canada but may also apply to a small number of persons born inside Canada to parents who are foreign nationals, and persons who are Canadian by birth born outside Canada to Canadian parents.

Data Source
Table 3.1: Statistics Canada. (2010-05-19). *Immigrant Status and Place of Birth, Sex and Age Groups for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].
Appendix B: Statistics Canada. (2010-05-19). *Immigrant Status and Place of Birth, Sex and Age Groups for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].

By birth place (2006)[618]

The concept of place of birth applies to the country of a respondent if born outside Canada. Respondents are to report their place of birth according to international boundaries in effect at the time of enumeration not at the time of birth.

Data Source
Appendix B: Statistics Canada. (2010-05-19). *Immigrant Status and Place of Birth, Sex and Age Groups for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].

By years since immigration (2006)[617]

Year or period of immigration refers to a person who is a landed immigrant by the period of time in which he or she first obtained landed immigrant status.

Data Source
Table 3.1: Statistics Canada. (2010-04-08). *Place of Birth, Period of Immigration, Sex and Age Groups for the Immigrant Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].
Appendix B: Statistics Canada. (2010-04-08). *Place of Birth, Period of Immigration, Sex and Age Groups for the Immigrant Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2006 Census – 20% Sample Data* [Data File].

Infant mortality rate (under one year) (2007)[619]

Infant mortality rate is the number of infant deaths occurring within the first year of life during a given year per 1,000 live births in the same year.

Data Source
Appendix B: Statistics Canada. (2010-02-22). *CANSIM Table 102-0507 Infant mortality, by age group, Canada, provinces and territories, annual* [Data File].

Infectious syphilis (2009)[609]

Estimated rate per 100,000 population, where infectious syphilis (including primary, secondary and early latent stages) has been identified through laboratory testing.

Data Source
Appendix B: Public Health Agency of Canada. (2010-05-06). *Reported cases of notifiable STI from January 1 to December 31, 2008 and January 1 to December 31, 2009 and corresponding annual rates for January 1 to December 31, 2008 and 2009*.

Inuit (2006)

See Aboriginal

- L -

Life expectancy (2005-2007)[103]

Life expectancy is the average number of years of life remaining at birth or at another age. It is expressed as an average for a three-year period and is based on three-year age-specific mortality rates.

Data Source
Table 3.2: Statistics Canada. (2010-02-22). *CANSIM Table 102-0512 Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual (years)* [Data File].
Appendix B: Statistics Canada. (2010-02-22). *CANSIM Table 102-0512 Life expectancy, at birth and at age 65, by sex, Canada, provinces and territories, annual (years)* [Data File].

Living alone (2006)[95]

Persons living alone in a private household.

Data Source
Table 3.2: Statistics Canada. (2010-01-06). *Household Living Arrangements, Age Groups and Sex for the Population in Private Households of Canada, Provinces, Territories, Census Divisions and Census Subdivisions, 2006 Census – 20% Sample Data* [Data File].

Living in health care and related facilities (2006)[99, 620]

Persons residing in general hospitals, other hospitals or related institutions, facilities for person with a disability, special care facilities (i.e. nursing homes, residence for senior citizens and chronic and long-term care and related facilities).

Data Source
Table 3.1: Statistics Canada. (2010-04-20). *Age groups and Collective dwelling types for Persons 65 years and over in collective dwellings of Canada, 2006 Census – 2A, 100% data* [Custom Data File].

Living in private households (2006)[621]

Refers to a person or a group of persons (other than foreign residents) who occupy a private dwelling and do not have a usual place of residence elsewhere in Canada.

Data Source
Table 3.1: Statistics Canada. (2010-01-06). *Household Living Arrangements, Age Groups and Sex for the Population in Private Households of Canada, Provinces, Territories, Census Divisions and Census Subdivisions, 2006 Census – 20% Sample Data* [Data File].

Definitions and Data Sources for Indicators

- M -

Major depression (2002)[205, 622]

Major depressive disorder is characterized by one or more major depressive episodes (at least two weeks of depressed mood and/or loss of interest in usual activities accompanied by at least four additional symptoms of depression).

- depressed mood most of the day, nearly every day, as indicated by either subjective report (for example, feels sad or empty) or observation made by others (for example, appears tearful);
- markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others);
- significant weight loss when not dieting, or weight gain (for example, a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day;
- insomnia or hypersomnia nearly every day;
- psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down);
- fatigue or loss of energy nearly every day;
- feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self- reproach or guilt about being sick);
- diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others); and
- recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

Data Source
Appendix B: Government of Canada. (2006). *The Human Face of Mental Health and Mental Illness in Canada*.

Métis (2006)

See Aboriginal

- O -

Obesity (2008)[170]

According to the WHO and Health Canada guidelines, the index for body weight classification is: less than 18.50 (underweight); 18.50 to 24.99 (normal weight); 25.00 to 29.99 (overweight); 30.00 to 34.99 (obese, class I); 35.00 to 39.99 (obese, class II); 40.00 or greater (obese, class III).

The index is calculated for the population aged 18 years and over, excluding pregnant females and persons less than 3 feet (0.914 metres) tall or greater than 6 feet 11 inches (2.108 metres).

Body mass index (BMI) is calculated by dividing the respondent's body weight (in kilograms) by their height (in metres) squared.

Data Source
Appendix B: Statistics Canada. (2009-06-24). *CANSIM Table 105-0507 Measured adult body mass index (BMI), by age group and sex, household population aged 18 and over excluding pregnant females, Canada (excluding territories), occasional (number unless otherwise noted)* [Data File].

Often have difficulties with activities (2008)[610]

Respondents aged 65 years and older who reported having difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing similar activities.

Data Source
Table 3.2: Public Health Agency of Canada. (2008).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey 2008 (AC-SHR)*, prepared by Statistics Canada].

- P -

Paid employment rate (2009)[258]

The employment rate is the number of persons employed expressed as a percentage of the population 65 years of age and over.

Data Source
Table 3.2: Statistics Canada. (2010-01-06). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Custom Data File].

People reporting food insecurity (2004)[623]

A situation that exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life.

Data Source
Appendix B: Health Canada. (2007). *Canadian Community Health Survey Cycle 2.2, Nutrition (2004): Income-Related Household Food Security in Canada*.

Persons living in low-income (after-tax) (2008)[245]

The percentage of Canadian families who are likely to spend 20 percent or more of their total post-tax income on necessities (food, clothing and footwear, and shelter) when compared to an average family of the same size, in the same broad community size. Low-income is based on the consumption patterns for 1992 and adjusted for family size, community sizes and inflation based on the national Consumer Price Index (see Table C.1).

Data Source
Table 3.2: Statistics Canada. (2010). *CANSIM Table 202-0802 Persons in low income, annual* [Custom Data File].
Appendix B: Statistics Canada. (2010). *Table 202-0802 Persons in low income, annual* [Custom Data File].

Population (2006, 2009)[625]

Estimated population and population according to the census are both defined as being the number of Canadians whose usual place of residence is in that area, regardless of where they happened to be on Census Day. Also included are any Canadians staying in a dwelling in that area on Census Day and having no usual place of residence elsewhere in Canada, as well as those considered non-permanent residents.

The 2009 population estimates are derived by using final postcensal population estimates for July 1, 2006, updated postcensal population estimates from October 1, 2006 to April 1, 2009 and preliminary postcensal population estimates from July 1, 2009 and adjusted for incompletely enumerated Indian reserves.

Data Source
Table 3.1: Statistics Canada. (2008-12-06). *Age and Sex for the Population of Canada, Provinces, Territories and Forward Sortation Areas, 2006 Census – 100% Data* [Data File].
Appendix B: Statistics Canada. (2009). Quarterly Demographic Estimates, April to June 2009. *Quarterly Demographic Estimates*, 23(2), 1-68.

Post-secondary education (2009)[258]

Persons who have completed a certificate (including a trade certificate), diploma or a minimum of a university bachelor's degree from an educational institution beyond the secondary level. This includes certificates from vocational schools, apprenticeship training, community colleges, Collège d'Enseignement Général et Professionnel (CEGEP), and schools of nursing.

Data Source
Appendix B: Statistics Canada. (2010-01-06). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Custom Data File].

Table C.1 Low-income cut offs, Canada, 2008 [624]

	Rural Areas	Urban Areas			
Size of family unit		Less than 30,000 population	30,000 to 99,999 population	100,000 to 499,999 population	500,000 and over population
1 person	12,019	13,754	15,344	15,538	18,373
2 persons	14,628	16,741	18,676	18,911	22,361
3 persons	18,215	20,845	23,255	23,548	27,844
4 persons	22,724	26,007	29,013	29,378	34,738
5 persons	25,876	29,614	33,037	33,453	39,556
6 persons	28,698	32,843	36,640	37,100	43,869
7 or more persons	31,519	36,072	40,241	40,747	48,181

Definitions and Data Sources for Indicators

Potential years of life lost[626]

Potential years of life lost is the number of years of life lost when a person dies prematurely from any cause – before age 75. A person dying at age 25, for example, has lost 50 years of life.

Premature mortality due to cancers (2001)[626]

Potential years of life lost for all malignant neoplasms (ICD-10 C00-C97), such as colorectal, lung, female breast and prostate cancer, is the number of years of life lost when a person dies prematurely from any cancer – before age 75.

Data Source
Appendix B: Statistics Canada. (2007-05-11). *CANSIM Table 102-0311 Potential years of life lost, by selected causes of death and sex, population aged 0 to 74, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to circulatory diseases (2001)[626]

Potential years of life lost for all circulatory disease deaths (ICD-10 I00-I99), such as ischaemic heart disease, and cerebrovascular diseases, is the number of years of life lost when a person dies prematurely from any circulatory disease – before age 75.

Data Source
Appendix B: Statistics Canada. (2007-05-11). *CANSIM Table 102-0311 Potential years of life lost, by selected causes of death and sex, population aged 0 to 74, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to HIV (2001)[626]

Potential years of life lost for human immunodeficiency virus (HIV) infection deaths (ICD-10 B20-B24) is the number of years of life lost when a person dies prematurely from AIDS/HIV – before age 75.

Data Source
Appendix B: Statistics Canada. (2007-05-11). *CANSIM Table 102-0311 Potential years of life lost, by selected causes of death and sex, population aged 0 to 74, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to respiratory diseases (2001)[626]

Potential years of life lost for all respiratory disease deaths (ICD-10 J00-J99), such as pneumonia and influenza, bronchitis, emphysema and asthma, is the number of years of life lost when a person dies prematurely from any respiratory disease – before age 75.

Data Source
Appendix B: Statistics Canada. (2007-05-11). *CANSIM Table 102-0311 Potential years of life lost, by selected causes of death and sex, population aged 0 to 74, three-year average, Canada, provinces, territories, health regions and peer groups, occasional* [Data File].

Premature mortality due to suicide and self-inflicted injuries (2004)[626]

Potential years of life lost for suicides (ICD-10 X60-X84, Y87.0) is the number of years of life lost when a person dies prematurely from suicide – before age 75.

Data Source
Appendix B: Statistics Canada. (2008-12-04). *CANSIM Table 102-0110 Potential years of life lost, by selected causes of death (ICD-10) and sex, population aged 0 to 74, Canada, provinces and territories, annual* [Data File].

Premature mortality due to unintentional injuries (2004)[626]

Potential years of life lost for unintentional injuries (ICD-10 V01-X59, Y85-Y86) is the number of years of life lost when a person dies prematurely from unintentional injuries – before age 75.

Data Source
Appendix B: Statistics Canada. (2008-12-04). *CANSIM Table 102-0110 Potential years of life lost, by selected causes of death (ICD-10) and sex, population aged 0 to 74, Canada, provinces and territories, annual* [Data File].

Provider of unpaid care (2007)[260]

A person who, during the past 12 months, gave assistance to someone with a long-term health condition or physical limitation. This assistance may be for family, friends, neighbours, co-workers or unpaid help provided on behalf of an organization.

Data Source
Table 3.2: Public Health Agency of Canada. (2007). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *General Social Survey, 2007*, prepared by Statistics Canada].

- R -

Regular family physician (2008, 2009)[175]

Population aged 12 and over who reported that they have a regular medical doctor. In 2003 and 2005, the indicator in French only included "médecin de famille". Starting in 2007, this concept was widened to "médecin régulier", which includes "médecin de famille".

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Respiratory diseases (2006)[115]

Deaths associated with respiratory diseases (ICD J00-J99) including by not limited to respiratory infections, influenza and pneumonia.

Data Source
Table 3.2: Statistics Canada. (2010-05-03). *CANSIM Table 102-0530 Deaths, by cause, Chapter X: Diseases of the respiratory system (J00 to J99), age group and sex, Canada, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2010-05-03). *CANSIM Table 102-0530 Deaths, by cause, Chapter X: Diseases of the respiratory system (J00 to J99), age group and sex, Canada, annual* [Data File]; and Public Health Agency of Canada. (2010-05-06).[Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *CANSIM Table 051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual (persons unless otherwise noted)*, prepared by Statistics Canada].

- S -

Satisfied or very satisfied with life (2009)[175]

Population who reported being satisfied or very satisfied with their life in general.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].

Schizophrenia (2005)[205, 607]

Respondents aged 12 years and over who reported having been diagnosed with schizophrenia by a health professional. This is believed to underestimate the true prevalence since some people do not report that they have schizophrenia and the survey did not reach individuals who were homeless, in hospital or supervised residential settings.

Data Source
Appendix B: Public Health Agency of Canada. (2008). Chronic Disease Prevention and Control, using the *Canadian Community Health Survey, 2002 (Cycle 1.2)* from Statistics Canada [Data File].

Some post-secondary education (2009)[258]

Persons who worked toward, but did not complete, a degree, certificate (including a trade certificate) or diploma from an educational institution, including a university, beyond the secondary level. This includes vocational schools, apprenticeship training, community colleges, Collège d'Enseignement Général et Professionnel (CEGEP), and schools of nursing.

Data Source
Appendix B: Statistics Canada. (2010-01-06). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Custom Data File].

Definitions and Data Sources for Indicators

- T -

Teen pregnancy rate (2005)[627]

Total number of pregnancies (including live births, induced abortions and fetal loss) for women aged 15 to 19 years.

Data Source
Appendix B: Statistics Canada. (2008-10-17). *CANSIM Table 106-9002 Pregnancy outcomes, by age group, Canada, provinces and territories, annual* [Data File].

- U -

Unemployment rate (2009)[258]

The unemployment rate is the number of unemployed persons expressed as a percentage of the labour force.

Data Source
Appendix B: Statistics Canada. (2010-01-06). *CANSIM Table 282-0004 Labour force survey estimates (LFS), by educational attainment, sex and age group, annual* [Custom Data File].

Urban population (2006)[628]

An urban area has a minimum population concentration of 1,000 persons and a population density of at least 400 persons per square kilometre, based on the current census population count.

Data Source
Table 3.1: Statistics Canada. (2010-04-08). *Age groups, Rural/Urban area, Immigrant status and period of immigration, Income characteristics and Sex for Persons 65 years and over in Private Households of Canada, 2006 Census – 20% sample data* [Custom Data File].
Appendix B: Statistics Canada. (2008-11-05). *Population and dwelling counts, for urban areas, 2006 and 2001 censuses – 100% data* [Data File].

- V -

Very or somewhat strong sense of community belonging (2008, 2009)[175]

Population who reported their sense of belonging to their local community as being very strong or somewhat strong. Research shows a high correlation of sense of community belonging with physical and mental health.

Data Source
Table 3.2: Public Health Agency of Canada. (2009). [Analyses were performed using Health Canada's DAIS edition of anonymized microdata from the *Canadian Community Health Survey Cycle 2009 – Healthy Aging*, prepared by Statistics Canada].
Appendix B: Statistics Canada. (2009-06-26). *CANSIM Table 105-0501 Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2007 boundaries) and peer groups, occasional* [Data File].

Violent crime incidents (2007)[629]

Offences that deal with the application or threat of application, of force to a person including homicide, attempted murder, various forms of sexual and non-sexual assault, robbery and abduction, as well as traffic incidents that result in death or bodily harm.

Data Source
Appendix B: Dauvergne, M. (2008). Crime Statistics in Canada, 2007. *Juristat – Canadian Centre for Justice Statistics*, 28(7), 1-17.

Volunteering (2007)[254]

These are people who volunteered, that is, who performed a service without pay, on behalf of a charitable or other non-profit organization, at least once in the 12-month reference period preceding the survey. This includes any unpaid help provided to schools, religious organizations, sports or community associations.

Data Source
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