



Policy Innovations for an Aging Society

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May 2018

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ISBN 978-1-928003-08-3

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Introduction

The narrative about the aging society can be summed up in a nutshell. With seniors comprising a large and increasing proportion of the population, we can expect greater dependence on government programs and higher associated costs. There is typically very little good news in the current public conversation. Unfortunately, the aging story has led to policy initiatives that tend to reinforce notions of dependence and need.

But the aging narrative itself is old and tired in that it fails to reflect some of the positive aspects of an aging society and the many innovations currently under way throughout the world. The purpose of this paper is to put forward ideas for an updated story on aging along with possible new policy directions.

Current Context

Population aging is one of the most significant trends affecting the developed world. On a global scale, the number of people aged 65 and older will double in the next 25 years [Das 2015].

The aging society is certainly part of Canada's evolving narrative. For the first time in this country, the 2016 Census found that seniors outnumber children, with the population of older people experiencing its fastest growth since Confederation; in 2016, seniors comprised 16.9 per cent of the population compared to 16.6 per cent for children aged 14 and under [Statistics Canada 2017a: 5].

Rising health care spending is often associated with an aging population. Per capita health care spending by provinces and territories is highest for seniors and infants.¹ And while Canadians aged 65 and older comprise about 16 per cent of the population, they account for almost 46 per cent of health care dollars spent by provinces and territories [CIHI 2011].

Despite the apparent high costs, population aging is considered to be only a modest driver of rising health care expenditure, estimated at 0.9 per cent per year. But while only a moderate cost driver, the continued aging of the population is expected to put steady pressure on future health spending, adding around \$2 billion per year to overall health expenditure [CIHI 2016].

High and rising health care costs in Canada and throughout the developed world are being driven largely by the growing incidence of chronic disease, which has emerged as a global epidemic. Chronic disease rates in this country are increasing by 14 per cent a year. Three in five Canadians aged 20 and older have a chronic disease and four out of five are at risk [PHAC 2013: 2]. Nearly one in two Canadians will be diagnosed with cancer at some point in their lifetime [Canadian Cancer Society 2017]. As the population ages at a rapid pace, there will be a jump in the number of individuals with dementia, the progressive deterioration of thinking ability and memory [Alzheimer Society Canada 2017].

Over the years, the image of a simmering pot of rising and uncontrolled costs, due primarily to the health “burden,” has given rise to fairly negative narratives on aging. Images of a “silver tsunami” and its variants, including grey hordes, age surges, and tidal waves, have been invoked to describe the new demographic reality. The notion of a pending tsunami has created a policy context in which seniors and their associated costs are typically portrayed as a drain on national resources [Das 2015].

Fortunately, the notion of a uniform and unrestrained wave invading and swamping developed nations is now being challenged. In addition to the negative implications, there are conceptual problems with the tsunami characterization. For one thing, it lumps together all seniors as though they comprise a uniform group. The reality is quite the opposite.

The data show clearly that there are distinct groups of younger seniors and older seniors aged 85 and over [Statistics Canada 2017b]. There is no single tidal wave moving in a straight path. Many older Canadians remain active and participate fully in their communities while others experience one or more limitations that affect their functional capacity. While many seniors retire before the traditional age 65, growing numbers are continuing their employment beyond that standard cut-off.

In fact, few labour force trends have been as dramatic as the recent increases in employment for people of both sexes in their early 60s and between ages 65 and 69. Nearly one in five Canadians aged 65 and older reported working at some point during 2015. This was almost double the proportion in 1995. In 2015, 5.9 per cent of seniors worked all year,

full time, the highest level since comparable measures were introduced in the 1981 Census [Statistics Canada 2017d].

Some observers refer to this trend as “unretirement” or the growing movement away from early retirement, by choice or by economic necessity, toward continued work past the traditional retirement age of 65 [Farrell 2016]. In fact, Canada’s Chief Actuary estimates that the increase in the dependency ratio is expected to slow and possibly stabilize after 2031. By 2031, the combined total dependency ratio (elderly plus children as a proportion of the overall population) is expected to be lower than it was in the early 1970s [Council on Aging 2016: 3-4].

New Policy Framework

VALUES AND OBJECTIVES

The challenges to the current narrative are giving rise to efforts both in Canada and throughout the world to frame public and policy discussions on aging from a more optimistic perspective. In tackling the wide range of challenges facing an aging society, it is easy to lose sight of the many positive factors embedded in this changing demography. Rarely do we conclude, for example, that age has made us a wiser and more knowledgeable society.

In Indigenous communities, by contrast, elders are held in high regard and treated with great respect for their wisdom and experience.

Elsewhere in the world, the European-based Global Coalition on Aging, comprising private business, voluntary organizations, and government agencies, argues that an aging society should be deemed a sign of progress that brings unique opportunities for economic, social, and cultural development. An older demographic opens up new avenues for technological innovation, employment, and economic growth.

In fact, some economists believe that ensuring an active aging society should be considered a vital growth strategy for the European Union [Walker and Zaidi 2016]. The paradigm of older people as dependent on their family and the state is outmoded. Older citizens can be active participants in and contributors so long as they are supported by an age-friendly society.

Current policy frameworks are effectively out of touch with economic realities. Because of improved health and more active lifestyles, the gap between traditional retirement age and the onset of severe frailty is growing. There is a new life stage that is unaccounted for in both policy thinking and planning [Walker and Zaidi 2016]. The concept of “senior” needs to be rethought.

In fact, we need to reconstruct, more fundamentally, the social contract on aging and its implications for citizens, governments, and business.

The current policy framework is out of touch with the profound population shifts and fails to recognize a new demographic category of active and engaged younger elderly. The assumption of health burden and ongoing dependence must also be questioned. The inordinate focus on group homes and institutional care is out of sync with reality as Canadians increasingly are living on their own [Galloway 2017] and most seniors want to remain as independent as possible. Trends in labour market participation are challenging conventional thinking about the capacity for and interest in paid employment.

In short, the assumptions that have framed our policy measures are dated. Current policy measures are built on shifting sands, a reality that does not inspire confidence for the future effectiveness and relevance of policies and programs for an aging society.

POLICY INITIATIVES

One positive note is that there has been significant investments in home care in recent years. All provinces and territories have in place some form of aging at home initiative.² But while these investments are necessary, they are far from sufficient.

The federal government has encouraged investment in home care³ and has also introduced a new National Housing Strategy that will help low-income seniors gain access to affordable housing.⁴ In the short term, it will be crucial to build on this financing for affordable, accessible housing and long-term care, including supports at home.

It will also be essential to pay special attention to the needs of Canadians aged 85 and over, and to the frail elderly, more specifically. This group is the most rapidly growing segment of the Canadian population [Statistics Canada 2017b]. Policy imperatives include expanding the supply of palliative care.

These investments are pressing because the demographic flags that should long ago have signalled a call to action were largely ignored. But while it is important to continue along the current track, it is also vital to open up a second stream of work in order to challenge and change the conversation on aging and its associated policy investments.

The policy initiatives of the future need to be founded on more positive constructs than simply the expanded provision of health services at home. Forthcoming policy efforts need both to recognize and to promote a more active population, while acknowledging that increased longevity does mean that more seniors (and potentially more frail elderly individuals) may require some assistance at home or care for longer periods.

Future policy measures need to be more creative, community-based, and coordinated than they have been in the past. The following policy initiatives exemplify the kinds of measures that could be explored in order to implement a more positive and active view of aging. While they are by no means an exhaustive list, they represent possible directions to consider.

The first set of actions focuses on built environments that include and accommodate all ages. The second area of work involves the restructuring of health care. The third set of future policy measures seeks to provide social and health-related supports in communities. The fourth section focuses on wide-ranging developments related to technology. The final area discusses the policy enablers that serve as the foundation for these new initiatives.

Age-friendly cities and communities

With a rapidly aging population and 80 per cent of adult Canadians at risk of experiencing one or more chronic health conditions, it makes no sense to talk about the *possibility* of functional impairment. Rather, we need to acknowledge the *likelihood* that most adults will experience some form of functional decline, related to mobility, hearing loss, visual acuity, or cognitive impairment, over the life course.

If the likelihood of functional limitation were considered as a given rather than as a special need, the resulting policy responses would be very different than the ones currently in place. First, we would be building age-friendly cities and communities.

The thinking on age-friendly cities and communities has been shaped to a large extent by the World Health Organization which, in 2006, spearheaded the Global Age-Friendly Cities Project. It identified eight domains and associated benchmarks of community life, including outdoor spaces, buildings, transportation, and housing, in which communities can become more age-friendly. Thirty-three municipalities took part in the initial pilot, including four Canadian cities: Saanich, Portage la Prairie, Sherbrooke, and Halifax. *Global Age-friendly Cities: A Guide* was published in order to share the lessons from this work.⁵

While these measures are vital, they are not sufficient. In many new housing projects, for example, accessibility appears to be treated as an add-on rather than as a basic component of design. Wider doorways, higher plug outlets, and easy-to-grasp door handles should be considered standard features rather than special, hard-to-get items. While selected units in new housing developments may be accessible, few are actually visitable.

“VisitAble housing” or “VisitAbility” refers to the concept of designing and building homes with basic accessibility and easy access on the main level for all ages and mobility. VisitAble homes have three key features related to entrances, passageways, and washrooms. At a minimum, there must be one accessible, no-step entrance at the front, back, or side of the house. All doorways and halls must be wider with clear passage throughout the main floor. The main floor washroom must be accessible by visitors who use mobility devices. [“What is VisitAble Housing?” n.d.]

It is essential to embed the concept of inclusive design as a foundational principle and not as a nice-to-do afterthought.⁶ In an age-friendly society, barrier-free design is standard practice rather than notable exception.

The concept and practice of inclusive design would be applied to all homes, workplaces, and communities right from square one. It would not be necessary to spend substantial sums on expensive retrofit because accessibility would be baked into planning and design from the get-go. The value of inclusive design is that it is helpful not only for seniors and persons with disabilities but for all community members, including parents with babies and young children.

There have been some positive developments in this regard. Several jurisdictions have taken notable steps to improve community design through planning by-laws and accessibility requirements.

In 2008, for example, Quebec launched a program to support municipalities in their efforts to create age-friendly communities. Changes to the *Community Planning Act* in New Brunswick make mandatory the adoption of the Barrier-Free Design Building Code for new construction province-wide. Ontario has enacted legislation that obliges municipalities and all other organizations to meet the goal of an accessible Ontario by 2025. There are requirements for every private and non-profit organization with one employee or more to take specific steps to fulfill the obligations under the Act.

Funding assistance is also available for the retrofit of private homes. The Canada Mortgage and Housing Corporation set up the Home Adaptation for Seniors' Independence Program. It provides forgivable loans up to a maximum of \$3,500 to homeowners and landlords for major repairs, accessibility modifications or the creation of secondary suites.⁷

Accessible transportation is another key component of the inclusion equation. Accessible transit is crucial not just for seniors but for the entire population. Some communities are introducing special programs in rural and remote areas that are not well served by public transit. The Community Wheels program in Mahone Bay on the south shore of Nova Scotia, for example, provides pay-what-you can rides to the neighbouring town of Chester for shopping and medical appointments.

But there are significant developments that go beyond moving people out of their communities in order to access essentials. There is a growing demand for self-contained “village-like” neighbourhoods in which basic goods and services are located within a walkable distance. This feature is especially appropriate for an aging population concerned with transportation availability, accessibility, and cost. Moreover, walkability is positive for both personal health and the environment.

In addition to inclusive planning and design for the built environment, age-friendly communities recognize seniors’ wide-ranging skills and abilities. These communities explicitly plan for and enable seniors’ participation in diverse activities, such as visiting museums and libraries, taking courses, or volunteering for charities. The assistance takes the form of offering information, lowering fees, and providing transportation.

Age-friendly communities protect frail seniors who are living on their own through friendly call services and visits, meals on wheels, and help with tasks like house cleaning and snow shovelling. The approach relies heavily on the provision of various community supports, discussed below.

There have, in fact, been some positive developments in Canada. Manitoba, for example, introduced Age-friendly Manitoba in order to create communities committed to healthy, active aging. In May 2012, Quebec introduced *Vieillir et vivre ensemble [Aging and Living Together]*. It committed \$1.16 billion over five years to strengthen care and services that promote healthy aging and \$22.7 million over five years to promote seniors’ civic participation.

In March 2017, Nova Scotia announced a commitment of \$13 million over three years to *SHIFT: Nova Scotia’s Action Plan for an Aging Population*. It focuses on keeping seniors involved in and connected to their communities, promoting healthy living and maintaining older adults in the workforce. Part of the funding enables Nova Scotia to access an estimated \$21.4 million from the federal government for affordable housing [“SHIFT: Nova Scotia’s Action Plan” 2017].

Health care restructuring

Population aging means that Canada must accelerate the pace of change in health care. Former Senator Carstairs has argued that the structure of the health care system was not designed for today's population [Russell 2017]. Medicare was developed to deal largely with acute, episodic care for a relatively young population. The primary challenge today is to care for individuals managing complex and ongoing health issues.

The first problem is the shortage of geriatricians relative to the size of the older population. In 2017, only 294 physicians in Canada were practising geriatric medicine, the majority of whom were close to retirement [CMA 2017]. In addition to this formal shortage, it is known anecdotally that many general practitioners are reluctant to take new patients over a certain age because of the actual or potential "burden" on their practice. Here's why.

Most Canadians experience some form of functional limitation, such as mobility, visual, and/or hearing impairment, as a normal part of aging. Moreover, an estimated 75 to 80 per cent of Canadian seniors report having one or more chronic condition [CMA 2017] as the prevalence of these conditions, notably heart disease, dementia, and various cancers, rises with age. Eighty per cent of older adults with cancer, for example, report two or more additional health conditions [Bellizzi 2017].

As noted, early detection, innovative treatments, and supportive care have turned many formerly acute illnesses into chronic health conditions. But coexisting health conditions tend to complicate treatment and ongoing care.

There is growing recognition of the need to restructure health care towards more team-based, collaborative approaches involving multiple disciplines rather than physicians alone. Collaborative care teams have been found to be more effective for managing both the treatment and follow-up of coexisting conditions. These approaches tend to result in better follow-up care, health outcomes, and effective management of multiple complex conditions.

Mental health conditions, in particular, present additional challenges. The Mental Health Commission of Canada reported that, in 2016, more than 1.8 million Canadians over age 60 were living with a mental health problem or illness [Mental Health Commission of Canada n.d.].

Complexities arise from the fact that meeting the health care needs of older adults requires screening not only for mental health conditions, such as depression, but also for signs of cognitive impairment. Training in the effective treatment of mental health as well as substance use disorders should be provided to all primary care clinicians, nurses, care managers, allied health care professionals, and social service workers who care for older adults. Additional novel solutions will be needed as well.

In December 2017, Quebec announced that it would invest \$35 million to launch the first public psychotherapy program, which was inspired by a similar program in the UK. The approach has been found to be cost-effective, with medical savings in the range of 20 to 30 per cent, by preventing serious mental health conditions from getting worse [Fidelman 2017].

Once the program is up and running, persons with mental health challenges, such as anxiety and depression, will be able to consult a psychotherapist and be reimbursed by the provincial health insurance board. While psychotherapy is a recognized treatment option for mental disorders, it is not part of publicly insured health care services in any jurisdiction in Canada. The *Institut de la statistique du Québec* found that more than “200,000 people over 15 needed to consult a social worker, psychologist, or psychotherapist but were unable to do so over a 12-month period in 2010-11 because they had no insurance or could not afford to pay” [Fidelman 2017].

The unprecedented number of seniors means that it will never be possible to train enough mental health professionals to assist this rapidly growing population [Eden et al. 2012]. Future efforts must include new and more cost-effective ways to support mental health services. The US-based Institute of Medicine (IOM) argues that it will take “many types of trained hands,” including unconventional providers, to tackle the growing mental health needs of older adults.

The IOM stresses the need to train diverse direct care and peer support providers who can carry out screening and brief interventions for geriatric mental health problems and substance abuse.

Nurse practitioners, physician assistants, and social workers in primary care settings, for example, could receive brief training in geriatric mental

health and substance abuse management, without requiring specialized internship or fellowship training. Screening and targeted interventions for geriatric depression could be implemented through the existing workforce of service providers.

Clinical capacity could also be extended by training a cadre of health coaches and lay community health workers to carry out screening and brief interventions for geriatric mental health and substance use disorders [Eden et al. 2012].

There is also evidence of the effectiveness of interventions from unconventional sources. In a randomized trial involving 2,796 patients in Goa, India, for example, lay health counsellors provided screening for and treatment of common mental health conditions in collaboration with primary care physicians and a consulting mental health specialist [Bartels and Naslund 2013]. Other trials from India, Chile, Pakistan, and Uganda have shown that a workforce largely comprising non-medical mental health workers can successfully deliver interventions for depression, anxiety, and schizophrenia (though none of these programs specifically targeted older adults).

Care at home and in the community

Recent data on health care expenditure in Canada make clear the predominant focus on hospitals and institutions rather than care at home [CIHI 2017]. More health care dollars need to be directed and redirected toward improving home care and community-based services for seniors.

An estimated 2.4 million Canadians over age 65 will require continuing care support, both paid and unpaid, by 2026. That number will reach nearly 3.3 million by 2046 [Stonebridge, Hermus and Edenhoffer 2015]. In order to meet this increase, the demand for nurses to provide continuing care to seniors in home, community, and facility living settings is projected to rise from just under 64,000 full-time jobs to 142,000 full-time jobs by 2035, an annual growth of 3.4 per cent [Hermus and Stonebridge 2017].

A Dutch approach to care is achieving great success by using qualified nurses outside of the traditional health care system. “Buurtzorg” is a neighbourhood care approach that employs nurses to act as health coach

for individuals at home, advising them how to stay healthy, care for their needs, and maintain their independence. In assuming the role of health coach, the nurses focus primarily on preventive health measures, including diet, exercise, and social contact [Brodie 2017].

Founded in 2006, the Buurtzorg method has evolved into an operation that deploys units of up to 12 nurses, who are responsible for between 40 and 60 people within a particular area. There are an estimated 900 teams in the Netherlands, supported by about 50 administrators and 20 trainers.

Buurtzorg differs from other health care approaches in the scope it allows the nurses who are administering care. The main requirement is that they must spend at least 61 per cent of their time with patients. Administrative tasks are considered a secondary concern. To achieve this goal, nurses are supported by an IT operation that provides real time information, which is directly connected to the care process.

The innovative use of self-governing nurse teams has attracted great interest. While traditional approaches rely on different types of personnel such as nurses, homemakers, and attendant care workers to provide individual services, Buurtzorg expects its nurses to deliver the full range of health-related and support services. There is no specialization within nursing teams. A Buurtzorg nurse might administer wound care but may also help someone eat, bathe, or get dressed.

The preventive focus and innovative delivery have enabled the Dutch health care system to reduce costs by around 40 per cent. The time it takes to administer care has dropped by 50 per cent. While actual costs per hour are higher, they are offset by fewer hours required to provide care. These results have encouraged other countries to consider a similar style of community care. Buurtzorg is being trialled in the UK and Sweden, with Germany, Austria, US, Japan, China, Taiwan, and South Korea slated to follow [Brindle 2017].

Other nations have introduced preventive approaches that seek to maintain healthy functioning and independence for as long as possible. The Fredericia Municipality in Denmark, for example, has developed an innovative method based on the restoration of functional capacity.

Instead of sending a caretaker twice a day to help seniors with daily tasks, such as putting on their socks and shoes, the approach connects clients with a trainer who creates a personalized program that lasts six to eight weeks. The methodology is designed around the question: “What would you like to be able to do again?” The approach involves a short-term set of practical and focused inventions rather than a long-term relationship. The program has been adopted by two-thirds of Danish municipalities.

Reshaping Care in Scotland is another initiative concerned with the maintenance and restoration of capacity. It supports healthy aging through diet, exercise, and the prevention of falls. There is also an emphasis on “re-ablement” for persons with dementia. The effort seeks to help people stay out of formal care and remain at home through use of telecare and home adaptation [Scottish Government n.d.].

Caregiver supports

As the population ages, it will become increasingly important to pay more attention to informal caregivers. These are the individuals who provide 85 per cent of the care to seniors as well as to persons with disabilities.^{8,9}

More than 8.1 million Canadians ages 15 and older provide care to an aging family member or friend, chronically ill individual, or person with a disability [Sinha 2013]. Age-related needs topped the list, with 28 per cent of caregivers assisting elderly parents. Cancer was next at 11 per cent, followed by cardiovascular disease at 9 per cent and mental illness at 7 per cent.

As partners with health care and social service providers, caregivers should be involved, to the extent possible, in the planning, delivery, and evaluation of the programs and services that affect their lives. More often than not, caregivers are excluded or ignored by the health care system.

The lack of recognition and practical support for caregivers means that many suffer in terms of their own physical and mental health. Some are unable to continue in their caregiving roles as their physical, emotional, and financial well-being begins to deteriorate. At that point, many families seek residential or institutional care for the care receiver, often as an undesirable last resort.

Even under the best of circumstances, most caregivers need a break from their caregiving responsibilities. Burn-out is a real problem for caregivers of all ages, especially if they are also caring for children, trying to hold down paid employment, or studying at school [Torjman 2015c]. The current shortage of respite options will require the introduction of new models to fill the growing need.

The Weavers Program in Australia, for example, provides one-on-one support for caregivers by former caregivers. Individuals with personal caring experience are recruited, trained, and connected with current caregivers to help them navigate services and mobilize a network of support. Caregivers are encouraged to talk about the pressures associated with caring and to find ways to look after their own health and well-being. The process is supported by a professional connector who sets up and monitors the match, and runs regular lunches so that the weavers can share information.

A profound shift in policy direction is required if we want to take seriously the value of caregivers. The United Kingdom, Australia, and New Zealand, for example, have formalized the recognition of caregivers' vital roles through their respective national caregiver strategies.

Another major development in caregiving involves the use of new social technologies to enable the creation of networks among caregivers, care receivers, and formal services. Current approaches to health and social care are dominated by models that focus on individual needs and deficiencies. Assessments, diagnosis, prescriptions, and interventions are carried out as if people live in isolation. Family and friends are typically not engaged in care consultations and planning.

Network-based models of care, by contrast, expand current thinking about health and social interactions to include significant relationships and connections. Network models recognize that achieving good outcomes requires communication, problem-solving, and collaboration between and among informal networks and formal care providers [Cammack and Byrne 2012].

Tyze is an example of network-based care supported through a unique computer software program. Individuals, families and friends, neighbours, and care professionals can use Tyze to connect with each other around the

clock regarding the care of a given individual. Appointments and events are organized on a shared calendar. The network can be engaged for practical help, advice or information, reassurance, and support at any time [Cammack and Byrne 2012].

Caregivers also experience financial stress. They often must pay for basic food, rent, and health-related goods on behalf of the care receiver. The current tax provisions in place are barely adequate to help offset these costs. A small direct payment could be made to help offset caregiving expenses [Torjman 2015c].

The UK and Australia pay a cash benefit to the family caregiver of persons requiring chronic at-home care, with supplements for households that incur especially high costs. Here at home, Nova Scotia pays a \$400 per month caregiver allowance. The federal government also provides caregiver benefits, though, as non-refundable tax credits, these are of assistance primarily to higher-income households.¹⁰

Caregivers' employment can be jeopardized by the pressures of their caregiving responsibilities. They may have to refuse a job offer, promotion, or transfer; change or resign from a position; reduce their number of hours; or take leave from work. Employed caregivers often lose income, benefits, and pensions trying to balance work and family.

The needs of the frail elderly and those with episodic conditions are often unpredictable. The same can be said for seniors with episodic conditions, such as multiple sclerosis, in which symptoms recur and remit. Flexibility of work schedules is one of the most supportive employer responses.

There are notable policy precedents regarding flexibility at work. New Zealand allows caregivers who have worked with their employer for at least six months to request flexible arrangements, such as compressed work weeks, flex-time, and work from home. Ontario passed a *Flexible Work Act* as did the federal government. Effective October 2014, the province instituted three new leaves of absence through the *Employment Standards Amendment Act* (Leaves to Help Families), 2014.

While paid leave is another significant benefit, Canada is seriously lacking in this area. The Compassionate Care Leave provisions within Employment

Insurance allowed up to six weeks' paid leave to care for a gravely ill relative who is likely to die within 26 weeks. These eligibility criteria were too strict to provide meaningful assistance to most caregivers. Fortunately, federal Budget 2017 introduced a new Caregiver Benefit to help families cope with illnesses and injuries which, while serious, do not involve an end-of-life situation [Torjman, Mendelson, and Battle 2017: 15].

Co-housing models and caring villages

Many active healthy seniors seek more control over their lives and want to avoid the only option that seems available right now: placement in a nursing home or institution. However, they acknowledge that for social, health, and safety reasons, it is preferable not to live alone. In fact, loneliness has emerged in recent public conversations as a serious problem affecting the well-being of all Canadians, including seniors. The UK recently appointed a Minister responsible for tackling loneliness to address a similar concern in that country.

With many seniors seeking alternative living arrangements, there are some notable developments. For example, groups of friends or acquaintances are creating housing arrangements in which they choose to live together. While each individual or couple has a separate bedroom and private space, the friends share common space such as kitchen, living room, and dining room.

This informal care arrangement comes closest to the family arrangements to which most people have been accustomed throughout their lives. But it also makes available the assistance that residents may need in terms of shared costs and the division of home and personal care responsibilities.

More than a decade ago, a group of women in Paris set up a co-operative model in which residents chose to share a home without professional staff and formal schedules. All residents agreed to take responsibility for and provide care to each other, if and when required. While it took 13 years to convince investors of the value of this approach, the group was able to build a \$6 million, six-storey women's-only seniors home into which they moved in 2012.

Inspired by this French alternative to traditional living arrangements for seniors, a Toronto group created a made-in-Canada version. Baba Yaga

Place Toronto is an innovative model of living that supports community members to age in their own homes, surrounded by companions who provide mutual care.

A Montreal-based group has set up Radical Resthomes as a new housing option that they hope to develop over the next 20 years. The current model of accommodation in expensive senior institutions is not only unappealing but is also a serious drain on the resources of families and government. The Radical Resthomes model, by contrast, enables residents to manage their own lifestyle and activities. Professional assistance is not present around the clock but is called upon when necessary. The homes are part of the community rather than “senior ghettos set apart from the world.”

Prospective residents gather several friends and look for their own place to either rent or buy in the neighbourhood of their choice. Residents agree to share the costs, shopping, cooking, and cleaning. They look after each other if someone is sick or needs practical assistance. There is no developer, building manager or health professional controlling how to run the home. When more help is required, resources come to the person, not the other way around. Ideally, residents die in their own beds and not in institutions.

In January 2017, New Brunswick introduced *We are all in this together: An aging strategy*. Its purpose is to enable collaboration among the public, private, and non-profit sectors to create innovative housing models for seniors that include co-housing approaches described above, intergenerational housing,¹¹ senior-friendly neighbourhoods, and portable rent supplements. The latter will be aided by the recent federal announcement to introduce a National Housing Benefit.

Another significant development that promotes independence is the design of caring villages for specific populations. A noteworthy model of care for persons with dementia has emerged in a small town near Amsterdam [Das 2015]. In the municipality of Weesp, the village of Hogewey is home to 152 seniors who live with dementia.

The community consists of 23 residential units, each of which is shared by six to eight residents. Around-the-clock care is provided by 240 “villagers” who are informal caregivers or trained geriatric nurses, most of whom do not wear uniforms. There is no perception of the village being an institutional setting.

To ensure the safety of the residents, Hogewey is a secured village that residents are free to explore. Various amenities are available on the village grounds. This approach not only helps residents remain active but also affords them more independence and a better quality of life, which are usually absent in a traditional nursing home. Germany and Switzerland have studied the Hogewey village model and are expected to be the next countries to create their own dementia care villages.

Technology

Finally, it is important to engage technology in support of an aging population. There are several dimensions to this component, including prevention and treatment, supports for independent living, and at-home monitoring and assistance. While acknowledging the rapid pace of technological development, only a few illustrative examples are presented here.

With respect to prevention, a significant advance in recent years involves the early identification of various dementias. The current diagnosis of Alzheimer's, for instance, relies largely on documenting mental decline. Unfortunately, by the time the condition is detected, it has already caused severe brain damage [Alzheimer's Association n.d.].

One of the most promising areas of research involves neuroimaging, which focuses on early detection. Molecular imaging technologies are among the most active areas of research aimed at finding new approaches to diagnose Alzheimer's in its earliest stages. Molecular strategies may detect biological clues indicating that the disease is under way before it changes the brain's structure or function, and takes an irreversible toll on memory, thinking, and reasoning.

Technical aids and equipment, such as wheelchairs, visual aids, hearing aids, and prosthetic appliances, are essential in enabling independent living. But access to these vital supports and services is complex and varies widely throughout the country [Torjman 2015b]. The supports that may be provided in one jurisdiction may not be available in another. There may be a charge in one province or territory for a device that is provided elsewhere at little or no cost.

A truly age-friendly society would make various technical aids and equipment more readily available and affordable. There would also be provision for a more personalized approach. Right now, individual needs generally must conform to a predetermined list.

In addition to ensuring greater access to supports for independent living, governments can invest in and direct more financial assistance to the purchase of technologies that provide monitoring and assistance in the home. Devices placed in garments or on the body can assess body temperature, heart rate, falls, and mobility through sensors that alert health care professionals, if necessary.

There is precedent for this type of financing. The European Union has invested more than EUR 1.8 million in a home monitoring system for older adults who live alone or have chronic conditions. It funded the Complete Ambient Assisted Living Experiment (CAALYX) project, whose partners developed a prototype consisting of a home and mobile roaming monitoring system, which is able to collect information on five vital signs and detect falls. Data are then transmitted to a caretaker centre for assessment by doctors, caretakers, or family members. [Boulos et. al 2007]

One of the most radical technological developments involves the use of robots for elderly care. The global personal robot market could reach an estimated \$17.4 billion by 2020 [Muoio 2015]. As the most rapidly aging nation in the world, Japan is the leader in this field with its expected shortfall of one million caregivers by 2025. To tackle the challenge, Japanese companies are leading the development of “carebots” designed specifically to assist elderly people. In fact, one-third of the Japan government’s budget is allocated toward developing carebots [Muoio 2015].

Carebots assist with the activities of daily living, including eating, bathing, and dressing. Experimental robots are also helping with lifting people into and out of beds, following recipes, folding towels, and dispensing pills. In the near future, it is expected that self-driving cars will provide transportation to essential appointments.

Robot companions are also being developed to relieve loneliness¹² and remind the elderly to eat¹³ on a regular schedule. In order to improve the quality of life of patients with dementia, a Melbourne-based nursing home

is using robots to interact and play games with residents [Das 2015]. Australia, Denmark, Germany, and the United Kingdom are among the early adopters of robots for the care of the elderly and people living with dementia, more specifically.

Robotic caregivers have some clear advantages over humans, including their capacity to work around the clock [Matuszek 2017]. Companion robots can also help fill the time when people living with dementia are left alone or when care staff or family are occupied with another task. The intent is not to replace the staff or family member, but rather to provide comfort when these care providers are absent [Moyle 2013].

Not surprisingly, safety has emerged as a serious concern. The International Organization for Standardization, an independent body that sets standards for 164 member countries, recently created a standard to ensure that interactions between carebots and humans remain safe. But these safeguards still leave unaddressed nagging questions about the ethics of robotic care and whether it will replace or dramatically diminish human interaction and relationships. The labour force implications are equally profound. Both of these issues require further study.

POLICY ENABLERS

Finally, the achievement of a profound shift in both the narrative and associated policy directions on aging requires a strong foundation. Key policy enablers include data, funding, and governance.

Data

There is a wide range of data that enables more effective planning for an aging population. But because potential information needs typically exceed available resources and capacity, choices must be made regarding key data investments. The following examples represent possible avenues to pursue. A more strategic conversation regarding data for an aging population is required.

While there is considerable evidence on the linkages between specific policy instruments and improved health, for example, there are no definitive conclusions as to which are most effective. More research is needed in this

area if appropriate policy choices are to be made for public interventions [Oxley 2009].

There are also gaps in data and modelling capacity when it comes to determining retirement income issues. These include regular assessments of the incomes and living standards of current and future older Canadians, the assessment of dependency ratios based on later retirement ages, and the savings habits of Canadians along with variations over time [Council on Aging 2016].

The availability and analysis of data on aging are important in that they enhance our understanding of the lives of older people. Unlike other nations, Canada is lacking key information on this growing segment of the population. The Global AgeWatch Index¹⁴ is a good example of such analytic work. Since its launch in October 2013, the Index has provided global comparative information on the well-being of older persons.

The Index includes information in four key areas. First, it analyzes income security by looking at whether pension incomes are adequate and cover enough people. Second, it measures health status by examining life expectancy at age 60 and the psychological well-being of older people. Third, the Index assesses the personal capabilities of older people by investigating education and employment status. Finally, it considers how far countries have progressed in providing enabling, age-friendly environments.

The European Commission and United Nations Economic Commission for Europe have devised an Active Aging Index to measure the untapped potential of seniors across the 27 member states. It assesses the extent to which seniors can realize their full potential in terms of employment, participation in social and cultural life, and independent living. The Index also helps determine whether the relevant environment enables them to live an active life.

Funding

Not surprisingly, adequate funding is a central enabling factor for any policy initiative and age group. But sometimes it is not only the amount that is critical but also the way in which the funds are disbursed.

A recent Senate report, for example, recommended that the Government of Canada include demographic considerations when calculating federal transfers in order to ensure that all regions have the resources to fulfill their responsibilities on behalf of their aging populations [Senate 2017:11]. The Atlantic provinces, with 20 per cent of the population, would get more than Alberta, for instance, in which seniors represent only 13 per cent of the population.

Assistance with aging-related costs incurred by individuals is another possible avenue for policy exploration. There has long been discussion in the country about the need to provide assistance with the cost of prescription drugs, which represent one of the largest health expenses incurred by families. About 85 per cent of seniors take at least one prescription drug and those over age 80, on average, take five. That, in itself, is a serious problem. But so are the prices.

Canadians pay the second highest per capita cost in the world for pharmaceuticals. Seniors face a disproportionately greater burden of out-of-pocket expenditure for prescription drugs. In 2015, a household headed by a senior spent 55 per cent more on average on prescription drugs compared to other households [Avery 2017].

While all provinces have in place some arrangement to assist seniors with expensive medications, these plans vary in their coverage and the deductible that seniors must pay. In addition to this patchwork, there are an estimated 1,000 private drug plans in Canada. Most plans do not cover catastrophic drugs, the cost of which can range from two per cent to 10 per cent of family income.

Conversations have been under way in Canada about the need for some form of national Pharmacare initiative, similar to the national health care system. The notion of a Pharmacare program involving public coverage of prescription drugs was first proposed by Justice Emmett Hall in 1964, going back to the beginnings of medicare.¹⁵ Proposals have also been made for a new national insurance for extended health care. Several countries, including Germany, Japan, Korea, the Netherlands, and Luxembourg, provide universal coverage for long-term care that operates much like the Canada Pension Plan [Arntz et al. 2007].

Finally, some of the financial assistance that Canadians currently receive is delivered through the income tax system in the form of non-refundable tax credits. There are serious problems with this approach because they tend to provide disproportionate assistance to higher-income households. It is important to explore whether current measures for seniors are appropriate and whether there could be more effective use of these funds for all older Canadians, regardless of income [Torjman 2015a].

Governance

Finally, future policy initiatives must be planned more strategically than in the past. Governments tend to create single programs within single ministries. The aging population cuts across many different areas and diverse departments. It is impossible to tackle this wide-ranging demographic shift without some change in the way in which the issue itself is coordinated and managed. Several nations have introduced strategies that involve multiple departments along with effective coordination of the wide-ranging efforts.

The Canadian Medical Association and 35 partner organizations have called upon the federal government to develop a National Seniors Strategy, which would include a set of well-designed actions working coherently together [CMA 2015]. The proposed Strategy would be founded on five key principles: access, equity, choice, value, and quality.

Fortunately, there are noteworthy developments on the governance front. Alberta first announced its *Aging Population Policy Framework* in 2010. The strategy aligns the work of several ministries under an integrated set of directions that are relevant to an aging population: financial security and income; housing and aging in the right place; continuing care; healthy aging and health care; transportation and mobility; safety and security; and supportive communities [Government of Alberta n.d.].

In January 2017, New Brunswick introduced *We are all in this together: An aging strategy for New Brunswick*. Several months later, the province announced that it was accepting the recommendations set out in the 10-year strategy developed by the Council on Aging. As part of this effort, the province established an aging secretariat and created a roundtable on aging

to oversee the implementation of these recommendations. The secretariat acts as a single point of coordination for stakeholders in the aging sector.

Finally, in its 2017 Budget, Nova Scotia committed \$395,000 to establish a social innovation lab focused on aging in Nova Scotia. Its deliberations ideally will include a discussion about coherent and collaborative governance.

Conclusion

The data on demographics show an aging population and its associated impact on health expenditure and health conditions. The unprecedented growth of the senior population in Canada has given rise to an alarmist view of aging and a negative perception of the devastating burden of this segment of the population. Policy measures focus largely upon improvements to care at home.

Despite the investments, these efforts are far too modest relative to demand. While additional expansion is required in the short term in order to meet current and near-future needs, the response of simply building more of the same is not sufficient.

A new paradigm is needed that shifts thinking away from the burden approach toward an opportunity mentality. Policy measures around age-friendly communities, health care restructuring, care at home and in communities, caregivers, and technology would help advance this agenda. Key policy enablers related to data, funding, and governance would facilitate the shift to a more optimistic narrative and more robust set of policy measures for the future.

Endnotes

- 1 In 2015 (the latest available year for data broken down by age group), the cost for Canadians younger than age 1 was an average \$11,037 per person. Average per capita spending on health was \$1,503 for youths aged 1 to 14, \$2,772 for individuals aged 15 to 64 and \$11,758 for persons aged 65 and older.
- 2 Newfoundland and Labrador, for example, brought in a *Healthy Aging Policy Framework* in 2007; its 2014 Budget provided new funding for long-term care and home supports. In June 2015, New Brunswick announced a Seniors Navigator as part of its *Home First Strategy*. Nova Scotia's *Dementia Strategy* provides assistance to families and caregivers. Following the 2011 release of *Living at Home*, Quebec invested several billion dollars in home services as well as affordable housing. Ontario's 2012 Action Plan for Seniors *Independence, Activity and Good Health* called for home and community care services to support aging in place. Ontario introduced a Dementia Strategy as part of *Patients First: Roadmap to Strengthen Home and Community Care*. In 2017, Ontario brought in its *Aging with Confidence* Action Plan for Seniors. In 2015, Manitoba released a *Roadmap to Strengthen Home and Community Care*. Saskatchewan invested \$2 million in 2013 in a *Home First/Quick Response Home Care* pilot project that encouraged early discharge from acute care to community options. Alberta introduced an *Aging Population Policy Framework* in 2015. That same year, British Columbia released *Caregivers in Distress: More Respite Needed*, which recommended a shift from hospitals toward integrated community care services.
- 3 All jurisdictions in the country were recently encouraged by the federal government to bolster their investment in home care. For the first time ever, Ottawa tied its health care transfers to provincial/territorial investment in home care and mental health [Torjman, Mendelson and Battle 2017: 20].
- 4 In November 2017, Ottawa announced a 10-year, \$40 billion National Housing Strategy to improve the availability and quality of housing for Canadians in need. Ottawa also introduced a Canada Housing Benefit

that will provide financial support directly to families and individuals in housing need.

- 5 In 2007, the Federal, Provincial, Territorial Age-Friendly Rural and Remote Communities Initiative used the same method as the WHO Global Age-Friendly Cities Project but focused on Canadian communities with populations of less than 5,000 residents. To help communities with this process, the Public Health Agency of Canada collaborated with key partners to develop the Pan-Canadian Age-Friendly Communities Milestones.
- 6 Al Etmanski of PLAN Canada refers to the water supply when a concept or practice moves from the margins to societal norm. See, for example, <http://aletmanski.com/impact/womens-institute-into-the-water-supply/Age-Friendly societies>
- 7 First Nations and First Nation members living on-reserve may qualify for this assistance if the occupant of the dwelling where the adaptations will be made is 65 and over, has difficulty with daily living activities as a result of aging and total household income falls at or below a specified limit. The federal Budget 2015 also introduced a Home Accessibility Tax Credit for seniors and persons with disabilities to help offset the costs related to accessibility and security in their home.
- 8 Caregiver tasks vary according to individual circumstances. Caregivers help with personal care, bathing, dressing, feeding, and grooming. They do shopping, cooking, and housecleaning, and provide transportation and coordination of medical appointments. Caregivers often perform routine health-related tasks, such as changing surgical bandages or cleaning breathing tubes, for which they have received basic instruction. They provide social companionship and emergency assistance, where required.
- 9 In 2012 (latest available data), the reduced work effort by caregivers was estimated at 2.2 million hours per week. The Canadian economy was deemed to have lost the equivalent of 157,000 full-time employees because of caregiving pressures, a significant reduction in productive capacity. The Conference Board of Canada pegged the annual cost of lost productivity at \$1.3 billion dollars [Chénier, Hoganson and Thorpe 2012].

- 10 The federal Budget introduced a Caregiver Recognition Benefit for modern-day veterans. Budget 2017 announced \$187.3 million over six years, starting in 2016-17, and \$9.5 million per year ongoing, to create the new benefit. It will replace the existing Family Caregiver Relief Benefit and provide a more generous non-taxable \$1,000 monthly benefit payable directly to caregivers to better recognize their vital role.
- 11 Intergenerational models have become a popular option and will be discussed in a forthcoming Maytree paper.
- 12 <https://www.nytimes.com/2014/07/20/opinion/sunday/the-future-of-robot-caregivers.html>
- 13 <http://ieeexplore.ieee.org/document/6476702>
- 14 <http://www.helpage.org/global-agewatch/reports/global-agewatch-index-2014-insight-report-summary-and-methodology/>
- 15 The Commission on the Future of Health Care in Canada (Romanow Commission) proposed that Ottawa pay 50 per cent of drug costs once an individual's bill exceeded \$1,500 a year. The Canadian Medical Association has recommended that the federal government establish a cost-shared program of coverage for prescription medications. Another option is a social insurance scheme for prescription drugs into which people would pay, like the Canada Pension Plan, throughout their working lives. They would receive drugs at a designated age, say 65 or 67, with a deductible that is geared to income. Seniors would effectively prepay their drug costs.

References

- Alzheimer Society Canada. (2018). Dementia numbers in Canada. Retrieved from <http://www.alzheimer.ca/en/Home/About-dementia/What-is-dementia/Dementia-numbers>
- Alzheimer's Association. (n.d.) Alzheimer's and dementia testing for earlier diagnosis. Retrieved from https://www.alz.org/research/science/earlier_alzheimers_diagnosis.asp
- Arntz, M., R. Sacchetto, A. Spermann, S. Steffes and S. Widmaier. (2007). *The German Social Long-Term Care Insurance: Structure and Reform Options*. Discussion Paper No. 2625. Bonn, Germany: Institute of Labor Economics.
- Avery, G. (2017). Dr. Avery appears before the Senate Committee on National Finance to speak about the aging Canadian population. Retrieved from <https://www.cma.ca/En/Pages/Dr--Avery-appears-before-the-Senate-Committee-on-National-Finance-to-discuss-the-aging-Canadian-population.aspx>
- Bartels, S. and J. Naslund. (2013). The Underside of the Silver Tsunami – Older Adults and Mental Health Care. *New England Journal of Medicine* (368): 493-6.
- Barusch, A. (2013). The Aging Tsunami: Time for a New Metaphor? *Journal of Gerontological Social Work* (56): 181-4.
- Bellizzi, K. (2017). We're not ready for the 'silver tsunami' of older adults living with cancer. *The Conversation*. Retrieved from <https://theconversation.com/were-not-ready-for-the-silver-tsunami-of-older-adults-living-with-cancer-72242>
- Boulos, M. N. K., Rocha, A., Martins, A., Vicente, M. E., Bolz, A., Feld, R., ... Kinirons, M. (2007). CAALYX: a new generation of location-based services in healthcare. *International Journal of Health Geographics*, 6, 9. <http://doi.org/10.1186/1476-072X-6-9>

Brindle, D. (2017, May 9). Buurtzorg: The Dutch model of neighbourhood care that is going global. *The Guardian*. Retrieved from <https://www.theguardian.com/social-care-network/2017/may/09/buurtzorg-dutch-model-neighbourhood-care>

Brodie, C. (2017). 'Buurtzorg': The Dutch word that could revolutionize healthcare. Retrieved from <https://www.weforum.org/agenda/2017/06/the-dutch-community-care-revolution/>

Cammack, V. and K. Byrne. (2012, July). Accelerating a Network Model of Care: Taking a Social Innovation to Scale. *Technology Innovation Management Review* (26).

Canadian Cancer Society (CCS.) (2017). Nearly 1 in 2 Canadians expected to get cancer: report. Retrieved from <http://www.cancer.ca/en/about-us/for-media/media-releases/national/2017/canadian-cancer-statistics/?region=bc#ixzz54IzfpGRD>

Canadian Institute for Health Information. (CIHI). (2017). *National Health Expenditure Trends, 1975 to 2017*. Ottawa, ON. Retrieved from <https://www.cihi.ca/sites/default/files/document/nhex2017-trends-report-en.pdf>

Canadian Institute for Health Information. (CIHI). (2016). *National Health Expenditure Trends, 1975 to 2016*. Ottawa, ON. Retrieved from https://secure.cihi.ca/free_products/NHEX-Trends-Narrative-Report_2016_EN.pdf

Canadian Institute for Health Information. (CIHI). (2011). *Health Care Cost Drivers: The Facts*. Ottawa, ON. Retrieved from https://secure.cihi.ca/free_products/health_care_cost_drivers_the_facts_en.pdf

Canadian Medical Association (CMA). (2015, August). *A Policy Framework to Guide a National Seniors Strategy for Canada*. Retrieved from https://www.cma.ca/Assets/assets-library/document/en/about-us/gc2015/policy-framework-to-guide-seniors_en.pdf

Canadian Medical Association (CMA). (2017). Physicians by province/territory and specialty, Canada, 2017. Retrieved from <https://www.cma.ca/En/Pages/canadian-physician-statistics.aspx>

Charise, A. (2012, May 31). Let the reader think of the burden: Old Age and the Crisis of Capacity. *Interdisciplinary Studies in the Humanities* (4): 1-16.

Chénier, L., C. Hoganson and K. Thorpe. (2012). Making the Business Case for Investments in Workplace Health and Wellness. Ottawa: Conference Board of Canada. Retrieved from <https://www.servomax.com/files/uploads/productivite/Conference%20Board.pdf>

Ciolfe, T. (2017, May 3). What the census tells us about Canada's aging population. *Maclean's*. Retrieved from <http://www.macleans.ca/news/canada/what-the-census-tells-us-about-canadas-aging-population/>

Council on Aging of Ottawa. (2016, December). *Better Analysis in Support of Policy Making*. A background paper by the Advisory Panel of Experts on Income Security. Ottawa, Ontario: Author.

Craggs, S. (2017, November 7). Wynne announces 5,000 more long-term care beds over 4 years. *CBC News*. Retrieved from <http://www.cbc.ca/news/canada/hamilton/seniors-announcement-1.4390828>

Das, R. (2015, August 11). A Silver Tsunami Invades The Health Of Nations. *Forbes.com*. Retrieved from <https://www.forbes.com/sites/reenitadas/2015/08/11/a-silver-tsunami-invades-the-health-of-nations/#6cd18fae3efd>

Eden, J., K. Maslow, M. Le and D. Blazer eds. (2012). *The Mental Health and Substance Use Workforce for Older Adults. In Whose Hands*. Committee on the Mental Health Workforce for Geriatric Populations; Institute of Medicine, Washington (DC): National Academies Press.

Preparing for the 'grey tsunami.' (2015, September 30). *Toronto Star*.

Farrell, C. (2016). *Unretirement: How Baby Boomers are Changing the Way We Think About Work, Community, and the Good Life*. New York: Bloomsbury Press.

Fidelman, C. (2017, December 3). Psychotherapy: Quebec to invest \$35 million in mental health. *Montreal Gazette*. Retrieved from <http://montrealgazette.com/news/local-news/psychotherapy-quebec-to-invest-35-million-in-mental-health>

Fierlbeck, K. (2015, October 4). Don't Fear the Silver Tsunami. *Policy Options*. Retrieved from <http://policyoptions.irpp.org/2015/10/04/dont-fear-the-silver-tsunami/>

Galloway, G. (2017, August 5). Census 2016: More Canadians than ever are living alone, and other takeaways. *The Globe and Mail*. Retrieved from <https://www.theglobeandmail.com/news/national/census-2016-statscan/article35861448/>

Government of Alberta. (n.d.) Framework's 8 key theme areas. Retrieved from <http://www.seniors-housing.alberta.ca/seniors/aging-population-themes.html>

Grenier, E. (2017, May 3). Canadian seniors now outnumber children for 1st time, 2016 census shows. *CBC News*. Retrieved from <http://www.cbc.ca/news/politics/2016-census-age-gender-1.4095360>

Hermus, G, and C. Stonebridge. (2017). *Future Care for Canadian Seniors: A Primer on Nursing Supply and Demand*. Ottawa, ON: Conference Board of Canada. Retrieved from <http://www.conferenceboard.ca/e-library/abstract.aspx?did=8679>

Matuszek, C. (2017, August 27). How robots could help bridge the elder-care gap. *The Conversation*. Retrieved from <https://theconversation.com/how-robots-could-help-bridge-the-elder-care-gap-82125>

Mental Health Commission of Canada. (n.d.) Seniors. Retrieved from <https://www.mentalhealthcommission.ca/English/focus-areas/seniors>

Minsky, A. (2017, May 30). Canada 'woefully unprepared' to deal with senior population surge, Senate committee hears. *Global News*. Retrieved from <https://globalnews.ca/news/3489880/aging-senior-population-canada-cost-caring-prepared/>

Moyle, W. (2013, November 10). Robots in Dementia Care. *Australian Journal of Dementia Care*. Retrieved from <http://journalofdementiacare.com/robots-in-dementia-care/>

Muoio, D. (2015, November 20). Japan is running out of people to take care of the elderly, so it's making robots instead. *Business Insider*. Retrieved from <http://www.businessinsider.com/japan-developing-carebots-for-elderly-care-2015-11>

Oxley, H. (2009). *Policies for Healthy Ageing: An Overview*. OECD Health Working Papers No. 42. Paris: Organisation for Economic Co-operation and Development (OECD).

Office of the Parliamentary Budget Officer. (2017). *Fiscal Sustainability Report 2017*. Ottawa, ON. Retrieved from http://www.pbo-dpb.gc.ca/en/blog/news/FSR_October_2017

Office of the Parliamentary Budget Officer. (2016). *Fiscal Sustainability Report 2016*. Ottawa, ON. Retrieved from http://www.pbo-dpb.gc.ca/en/blog/news/FSR_2016

Public Health Agency of Canada. (PHAC). (2013). *Preventing Chronic Disease Strategic Plan 2013-2016*. Ottawa, ON: Author.

Roehr, B. (2012, July). US geriatric mental health workforce needs to expand, says Institute of Medicine. *BMJ* 345 (e4686). doi: <https://doi.org/10.1136/bmj.e4686>

Russell, A. (2017, May 5). Is Canada's health-care system ready for our rapidly greying population? *Global News*. Retrieved from <https://globalnews.ca/news/3429041/healthcare-stats-canada-2016-census/>

Scottish Government. (n.d.) Reshaping care. Retrieved from <http://www.gov.scot/Topics/Health/Support-Social-Care/Support/Adult-Social-Care/ReshapingCare>

Senate of Canada. (2017, June). *Getting Ready: For a new generation of active seniors*. First Interim Report of the Standing Senate Committee on National Finance on Canada's Aging Population. Ottawa, Ontario: Author.

Senate of Canada. (2009, April). *Canada's Aging Population: Seizing the Opportunity*. Ottawa, Ontario: Author.

SHIFT: Nova Scotia's Action Plan for an Aging Population. (2017). Retrieved from <https://novascotia.ca/shift/>

Statistics Canada. (2017a, May 3). Age and sex, and type of dwelling data: Key results from the 2016 Census. *The Daily*. Retrieved from <http://www.statcan.gc.ca/daily-quotidien/170503/dq170503a-eng.htm>

Statistics Canada. (2017b, May 3). *Census in Brief: A portrait of the population aged 85 and older in 2016 in Canada*. Ottawa, ON. Retrieved from <http://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016004/98-200-x2016004-eng.cfm>

Statistics Canada. (2017c, November 29). Labour in Canada: Key results from the 2016 Census. *The Daily*. Retrieved from <https://www.statcan.gc.ca/daily-quotidien/171129/dq171129b-eng.htm>

Statistics Canada. (2017d, November 29). *Census in Brief: Working seniors in Canada*. Ottawa, ON. Retrieved from <http://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016027/98-200-x2016027-eng.cfm>

Sinha, M. (2013). *Portrait of Caregivers*, 2012. Ottawa, ON: Statistics Canada. Retrieved from <http://www.statcan.gc.ca/pub/89-652-x/89-652-x2013001-eng.pdf>

Stonebridge, C., G. Hermus and K. Edenhoffer. (2015). *Future Care for Canadian Seniors: A Status Quo Forecast*. Ottawa, ON: Conference Board of Canada.

The silver tsunami: Business will have to learn how to manage an ageing workforce. (2010, February 4). The Economist. Retrieved from <https://www.economist.com/node/15450864>

- Torjman, S. (2015a). *Delivery of Social Benefits through the Personal Income Tax*. Ottawa, ON: Caledon Institute of Social Policy.
- Torjman, S. (2015b). *Disability Supports: Missing on the Policy Radar. Renewing Canada's Social Architecture*. Ottawa, ON: Caledon Institute of Social Policy and Toronto: Mowat Centre for Policy Innovation.
- Torjman, S. (2015c). *Policies in Support of Caregivers. Renewing Canada's Social Architecture*. Ottawa, ON: Caledon Institute of Social Policy and Toronto: Mowat Centre for Policy Innovation.
- Torjman, S., M. Mendelson and K. Battle. (2017). *The Farewell Budget*. Ottawa, ON: Caledon Institute of Social Policy.
- United Nations. (2017). *Ageing, Older Persons and the 2030 Agenda for Sustainable Development*. Retrieved from https://www.un.org/development/desa/ageing/wpcontent/uploads/sites/24/2017/07/UNDP_AARP_HelpAge_International_AgeingOlderpersons-and-2030-Agenda-2.pdf
- What is VisitAble Housing?. (n.d.). Retrieved from <http://visitablehousingcanada.com/>
- Walker, A. and A. Zaidi. (2016). New Evidence on Active Ageing in Europe. *Intereconomics* (3): 139-144, Kiel: Leibniz Information Centre for Economics.
- World Health Organization. (WHO). (2011). *Global status report on noncommunicable diseases 2010*. Geneva. Retrieved from http://www.who.int/nmh/publications/ncd_report2010/en/
- Zaidi, A. (2016, January 8). Taking notice of the new ageing paradigm: Why we need more data. [Blog post]. Retrieved from <http://www.helpage.org/global-agewatch/blogs/asghar-zaidi-20076/taking-notice-of-the-new-ageing-paradigm-why-we-need-more-data-805/>