



# Long-Term Care

*An Actuarial Perspective on Societal and Personal Challenges*

**April 2017**

## Acknowledgements

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The views expressed in this paper are not necessarily the views of the IAA.



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## **EXECUTIVE SUMMARY**

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As populations age over the next several decades, the demand for long-term care (LTC) services (assisting individuals with their activities of daily life) will increase dramatically and is likely to reach crisis levels in many countries. Societies will have to confront this emerging need because historical methods for providing and financing LTC may not be adequate to address future LTC needs.

The primary objective of this paper is to provide information concerning some of the key issues associated with LTC, including: (1) the future use of LTC services, (2) alternative benefit designs and their resulting incentives, (3) a range of approaches used around the world to provide LTC services and (4) methods of financing LTC services and mitigating costs by the individual, community, private sector and governments. This presentation is particularly important, as there are significant differences throughout the world in how LTC is treated.

The overall message of this paper is that it is very important for individuals, societies and policy makers to address LTC issues in a timely manner before they become more severe. It delves into the issues associated with LTC on a worldwide basis and discusses many of the key factors in and potential strategic solutions for developing sustainable and coordinated national and local LTC programs and services.

It is hoped that this paper will encourage further discussion of LTC-related issues by national actuarial associations, individual actuaries and policy makers that can help lead to the development of effective solutions for the provision, delivery and financing of LTC.

There are several factors that need to be recognized to successfully develop or refine a program that can effectively satisfy LTC needs:

- Increasing very old age dependency ratios, longer lifetimes, smaller size and less financially secure families, increased population mobility and other demographic and cultural changes strongly suggest that the total amount of financial and human resources spent providing LTC will increase substantially, while sources of support and financing may be difficult to obtain for many population segments.
- A combination of public and private cooperation will be necessary to successfully provide and finance LTC services for all population segments.
- LTC programs that are subject to voluntary participation can experience anti-selection. Understanding differing needs by income/wealth levels, as well as country and community-specific cultural history and values, may help reduce anti-selection associated with many approaches, and lead to better outcomes for both the programs involved and those covered.
- The situs (location) where and manner in which care is provided, changes in the infrastructure, program designs and public policies should focus on promoting healthier lifestyles, catering to the needs of the elderly and encouraging more social interaction among individuals to enhance their quality of life and reduce costs.

- Informal caregivers (family, friends and community) often experience substantial financial and non-financial stresses. This traditional source of providing care will continue to be important, both to provide a more comfortable environment and to help control costs. The economic cost of providing informal care is enormous and likely to increase further.
- Because of such factors as lower fertility rates and increased population mobility, the supply of informal LTC caregivers (family and friends) may reduce over the coming decades. The financial, mental and physical stresses on informal caregivers are heavy burdens. These may result in larger economic costs to society because of loss of productivity and increased mental and physical stress that in turn lead to greater healthcare cost related to informal caregivers. Overall, there is a global shortage of formally trained LTC workers, which should be addressed through appropriate recruitment, training, and retention policies.
- Education addressing the increasing impact of LTC issues and risks, including effective means of addressing them, is important for all stakeholders, including future and current users of LTC services, as well as policy makers. This need emerges not only when LTC needs arise, but to a large extent beforehand so that proper preparations can be made.
- Continued emphasis on home and community care can not only optimize personal and family-centered care, but also can be used to mitigate costs.
- Mitigation of the likely increase in costs includes the injury and disease prevention and other reductions in the need for care.
- To effectively achieve optimal LTC coverage for all of society so that no one is left behind, there is a need for a minimum set of mandatory social benefits that can be supplemented by private savings and insurance and public, charity and other community programs. In most cases a comprehensive and coordinated system of benefits and services will be better than several silo-structured approaches to specific circumstances and population segments.
- Better coordination and cooperation between retirement, healthcare and LTC programs need to be considered by individuals and both the public and private sectors.

Active actuarial involvement in the design and management of these programs will prove beneficial as a result of the experience and expertise of actuaries in modeling related long-term contingencies and in assessing the behaviour of the stakeholders involved.

Because of the time frames and costs involved, as well as the existence of competing demands on public and private resources, it may be optimistic to expect that comprehensive approaches to address LTC will be adopted in many countries in the foreseeable future. Nevertheless, it is important to address and design program elements to provide for these emerging needs as soon as practical, so that individuals can plan for their future and policy makers are enabled to take appropriate actions to mitigate as many LTC related issues as possible.

## **CHAPTER 1: INTRODUCTION AND WHAT IS LONG-TERM CARE**

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### **INTRODUCTION**

The primary objective of this paper is to provide information concerning some of the key issues associated with long-term care (LTC). These include the future development of LTC services and their importance and use, alternative benefit designs and their resulting incentives, and the range of existing approaches used to provide for and finance LTC by the individual, the community or charity, private insurance and government programs.

The overall message of this paper is that LTC issues are urgently important to both individuals and policy makers who should address them in a timely manner before they become even more severe.

It is hoped that this paper will encourage further discussion of LTC related issues and lead to the development of effective solutions for the provision, delivery and financing of LTC by national actuarial associations, actuaries and policy makers.

Although the need for LTC services may arise at any age, this paper focuses on the LTC needs for the elderly, the population segment most in need of them.

### **WHAT IS LONG-TERM CARE?**

LTC is sometimes referred to as “Long-Term Services and Supports” or as part of “Social Care” – it covers the need for supportive services to individuals of all ages who live with chronic and disabling physical and/or mental conditions regardless of setting. A discussion of the nature of LTC is provided in the Appendix.

In comparing LTC and health care, one can view the objective of healthcare in terms of changing an individual’s health condition (from unwell to well), while the objective of LTC is to make the individual’s current condition (unwell) more bearable. Individuals need LTC as a result of being disabled or having a chronic condition, trauma, or illness, which limits the ability to carry out basic self-care or daily personal tasks.

LTC encompasses a wide range of personal needs, particularly those focused on activities related to the inability of individuals, especially the elderly, to be independent, thus requiring support by others. These are often referred to as Activities of Daily Living (ADLs) that include, but are not limited to, activities such as:

- Transferring, including functional mobility, which for most people means walking and getting into and out of a bed or chair
- Bathing (or showering and washing the body)
- Dressing
- Self-feeding, not including cooking or swallowing
- Continence, including grooming and personal hygiene
- Toileting, including cleaning oneself.

Another categorization of LTC needs is referred to as Instrumental Activities of Daily Living (IADLs), performance of which, although not necessary for fundamental life-functioning, enables an individual to live independently:

- Housework
- Preparing meals
- Taking medications as prescribed
- Managing money
- Shopping for groceries or clothing
- Use of telephone or other means of communication
- Transportation within the community.

The need for LTC can be determined based on the inability to carry out a given number of ADLs or IADLs, dependency on others, medical needs, or level of disability. Usually, the more ADLs or IADLs that an individual cannot perform, the greater the need for LTC services. In addition, people's belief in their needs and availability of (human and financial) assistance, also contributes to their desire for LTC support.

LTC services are delivered through a variety of ways and facilities. The family is usually the default caregiver, especially during the early stages of LTC needs and in the lesser-developed countries. This care is usually provided through private self-financing; if not practical, other means are then sought. The spectrum of caregivers ranges from the immediate family, other relatives, friends, homecare aides, and community programs at one end, to insurance and state welfare for many, or private facilities for the affluent, at the other end; these are highly dependent on financial resources available to the individual, family, community and the state.

Progression, irreversibility, and permanence are characteristics of conditions seen in old age frailty. These characteristics are especially important for individuals to understand when they make decisions regarding planning for, the situs (location where services are delivered) and intensity of LTC needs. As is clear from the above descriptions, while there are basic core needs that are common to all LTC recipients, most LTC needs are unique to each individual. In large part, this is what makes providing a complete portfolio of LTC services complex.

The main factors of costs associated with LTC include: (1) incidence (beginning of LTC services), (2) continuance of and transference between types of services, (3) mix/intensity of service and (4) cost (initial and inflationary effect) of a service. The first three are addressed in this chapter. Their underlying drivers, as indicated elsewhere in this paper that can vary by country and population segments within a country, include (1) cultural values and attitudes to personal assistance to older adults, (2) number needing care of some type, (3) availability and access to alternative deliveries of care, (4) available financing of care, (5) supply of caregivers and facilities and (6) underlying morbidity/mortality trends. These are addressed in this paper.

In addition, the LTC process and system in a country are inter-related to other programs and processes – including those of acute care, human resources, retirement programs and

medical and technological environments. In sum, LTC is affected by many demographic, economic and behavioral influences.

Because of the complexity of a system of LTC, however, it is unrealistic to expect this paper to cover all the issues involved in equal depth. In addition, the data and national case studies were selected to provide a reasonably representative view of practice worldwide, but they do not represent a comprehensive treatment of LTC.

### **ROADMAP FOR THE PAPER**

This paper is comprised of ten chapters, organized to meet the objective of encouraging further discussion of LTC related issues by national actuarial associations and policy makers.

After setting the stage with a discussion of what LTC is and why it is important, the paper discusses types of LTC delivery methods commonly used and the needs they meet, with a focus on a key participant in these methods, the caregiver. This is followed by a presentation of results of selected LTC experience and trends, and various financing methods used to provide LTC services. The wide range of approaches that have been taken are suggested in a series of national case studies, describing benefits and financing methods provided in a selected set of countries, are followed by a discussion of methods that can be used to mitigate the costs involved.

The key elements of a LTC system, that is, the needs addressed, the delivery system and the financing methods used, are quite interrelated. By necessity, this will in most cases involve the family, the community, the providers of care and financing methods that may include an appropriate mix of private savings, employer-sponsored savings, private sector or social insurance and government revenues that is most appropriate for the individual country. Finally, the role of actuaries and possible strategic solutions to the LTC issues for everyone raised are discussed.

The organization of this paper by chapter consists of:

- Chapter 1 – *Introduction and What is Long-Term Care.*
- Chapter 2 -- *Why Long-Term Care is important.* This chapter provides background regarding the reasons why LTC needs to be addressed in a timely manner, and why we should plan for future LTC needs.
- Chapter 3 – *Delivery methods.* This chapter discusses the basic LTC services, both on a formal and informal basis. These cover both services provided in facilities/institutions, at home, and in the community.
- Chapter 4 – *LTC needs and how they can best be met.* The fundamental needs for these services are discussed. These include residential care, caregiving related to activities of daily living, healthcare and end-of-life care.
- Chapter 5 – *Caregivers.* Special attention is given to issues related to caregivers, a crucial element in satisfying LTC needs.
- Chapter 6 – *Experience trends and modeling considerations.* Trends in experience for LTC services and for LTC insurance from selected countries are given. Actuarial considerations are discussed that may be useful in modeling future LTC experience.



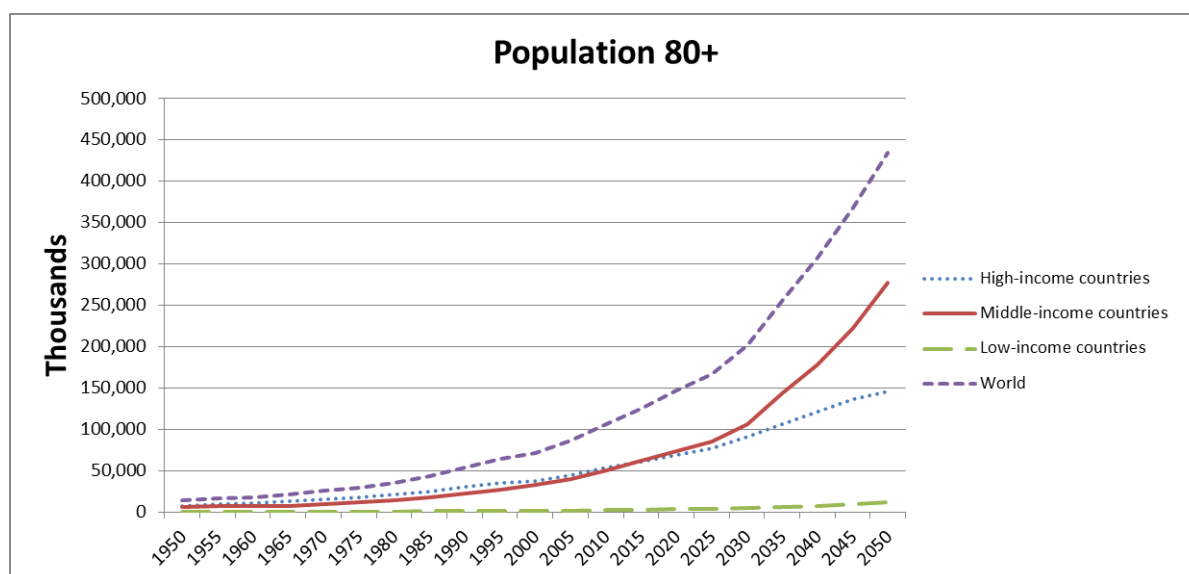
- Chapter 7 – *Financing methods*. Direct methods include public and private financing, while indirect methods include the use of personal resources.
- Chapter 8 – *National case studies*. It includes case studies of several selected national LTC markets, illustrating the various design and financing of programs in different countries that have been taken. The countries included are: The United States, Japan, Germany, France, Canada, the Republic of Benin, Israel and the United Kingdom.
- Chapter 9 – *Other LTC related issues*, including discussion of program design issues that can mitigate LTC costs and risks, and the role actuaries play in LTC.
- Chapter 10 – *Strategic solutions for the LTC crisis*. The management and financing of LTC will become more difficult in the future, leading to an emerging crisis in many countries. In this chapter mitigating approaches are discussed, such as support of the LTC insurance market, mandatory LTC coverage, and public/private LTC cooperation.
- Appendix – A discussion of the nature of LTC.

## CHAPTER 2: WHY LTC IS IMPORTANT

The consequence of living longer is a greater number of people with chronic physical and mental conditions. These conditions often impair the daily activities of individuals, their ability to function independently and their quality of life, adversely affecting the individuals involved, their families, their communities and society as a whole. The incidence of this impairment starts increasing in the 60s, but even more sharply in the 80s. LTC programs have been used by society to help manage these realities that can represent considerable psychological and financial insecurity to the individual and her family, as well as cost to society.

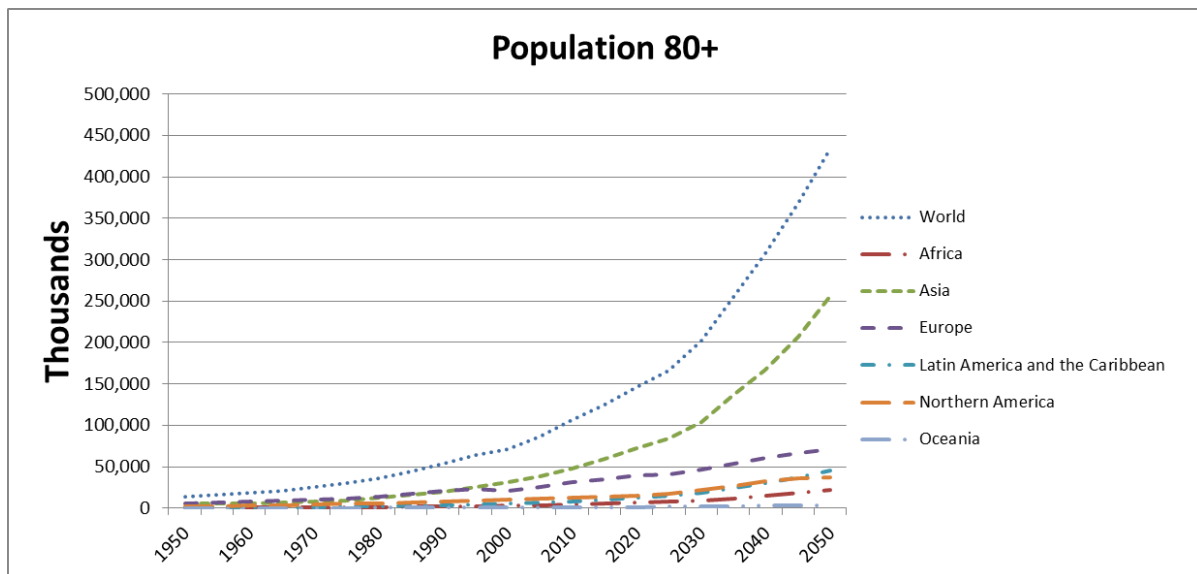
Figures 1 and 2 show the total number of those age 80 and older, as projected by the United Nations (and Figure 3 by the OECD) by income in country and by continent. Note that of about 450 million people projected to be age 80 and over in 2050, there will be about 80 million age 90 and over. This compares with about 125 million people age 80 and over in 2015 and about 15 million age 90 and above. It is particularly evident in Figure 2 that the largest increase and fastest growth in the number of those age 80 and over will occur in Asia, led by China because of its large overall population.

**Figure 1 – Global population of those age 80 and older**



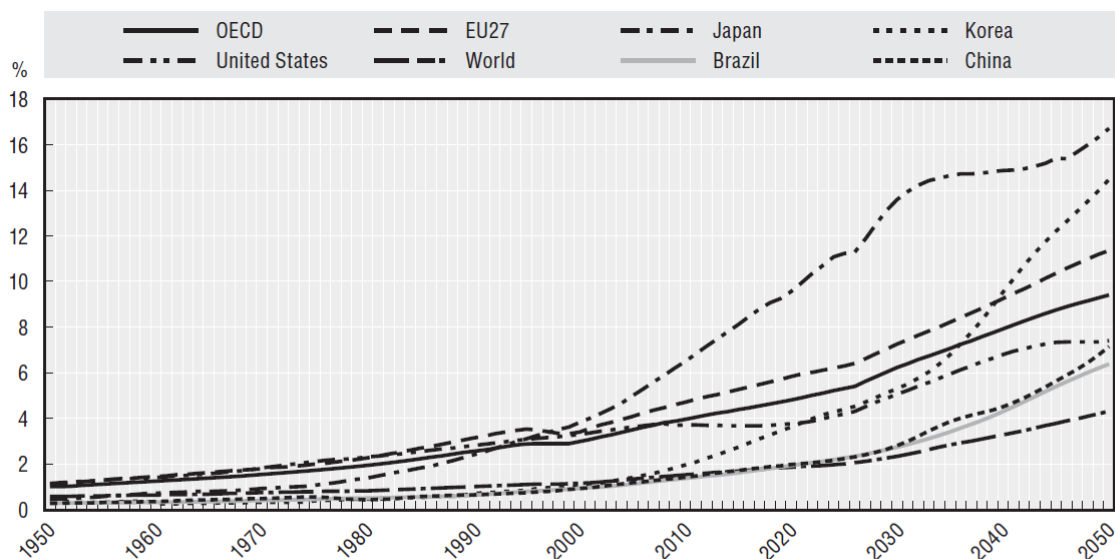
Source: United Nations 2015 Revision of World Population Prospects

**Figure 2 – Global population of those age 80 and older – by continent**




Source: United Nations 2015 Revision of World Population Prospects

**Figure 3 – Share of the population aged over 80**



Source: OECD Labour Force and Demographic Database, 2010.

StatLink  <http://dx.doi.org/10.1787/888932400874>

The likelihood of being dependent on others differs by age, increasing sharply at ages 80 and over, and varies significantly by individual. As is shown in Table 1 for representative countries, the percentage of the population above ages 65 and 80 increased rapidly after 1970 in all the countries shown (except for Benin, which is an example of a very young country with high birth rates) for both males and females, with trends expected to continue rising in the coming decades, although at different rates (the projections shown in Table 1 were developed by the World Bank; other projections prepared by others would be different, but they all exhibit similar patterns).

The percentage of the total population that is older than ages 65 or 80 is larger for females than males in all countries because of the longer life expectancy measured from birth of females. Countries have and will age at different rates, depending upon their fertility, migration and mortality rates. Ages 65 and 80 were selected for this purpose to roughly illustrate the percentage of the population that might be of retirement age and have an increased likelihood of receiving LTC benefits, respectively.

Japan is the country included in Table 1 with the highest percentage of its population older than age 80 in 2015, in large part because of its long life expectancy. In 2050, the percent of Italy's female population older than age 80 is about the same as that of Japan's, while it is the largest for males. The World Bank projects that China's percent increase for females between 2030 and 2050 will be the largest among the countries included in the table, while Germany's increase for males will be largest, due to their low fertility and improving longevity.

**Table 1 – Percent of total population above age 65 and age 80, selected countries**

Ages	> 65		> 80		> 65		> 80		> 65		> 80	
Gender	F	M	F	M	F	M	F	M	F	M	F	M
Country	Benin				Canada				China			
1970	4.6	4.1	0.3	0.3	8.8	7.2	1.8	1.3	4.4	3.0	0.4	0.2
1990	3.8	2.8	0.4	0.3	12.9	9.5	3.0	1.6	5.9	4.8	0.8	0.4
2010	3.4	2.6	0.3	0.2	15.6	12.7	4.9	2.9	8.8	7.8	1.6	1.1
2015	3.4	2.4	0.3	0.2	17.5	14.8	5.1	3.3	10.2	8.9	1.9	1.3
2030	3.7	3.1	0.4	0.2	24.6	22.3	7.4	5.6	18.5	16.0	3.4	2.4
2050	5.5	4.6	0.6	0.4	27.8	24.9	11.8	9.5	29.4	25.8	10.2	7.8
Country	France				Germany				Israel			
1970	15.5	10.0	3.2	1.4	15.9	11.1	2.4	1.4	6.7	6.2	1.0	0.7
1990	16.6	11.3	5.0	2.3	19.1	10.3	5.2	2.2	9.7	8.1	1.9	1.6
2010	19.1	14.9	6.9	3.8	23.2	17.9	6.8	3.4	11.8	9.1	3.5	2.2
2015	21.0	17.1	7.6	4.5	23.5	18.9	7.2	4.1	12.5	10.0	3.7	2.4
2030	26.0	21.7	9.2	6.4	29.9	26.1	9.4	6.6	15.2	12.7	4.6	3.5
2050	28.9	23.6	13.2	8.8	34.3	30.3	16.1	12.7	18.5	16.3	6.5	5.1
Country	Italy				Japan				South Africa			
1970	12.6	9.5	2.2	1.4	7.7	6.3	1.2	0.6	4.2	2.7	0.6	0.3
1990	17.2	12.3	4.3	2.2	14.1	9.8	3.0	1.7	3.9	2.5	0.5	0.2
2010	22.6	17.9	7.4	4.2	25.6	20.2	8.1	4.4	6.2	3.9	1.2	0.7
2015	24.8	19.8	8.5	5.1	29.1	23.4	9.8	5.6	6.7	3.4	1.3	0.6
2030	31.1	26.0	11.5	7.8	33.6	27.0	15.4	9.8	9.1	5.0	1.7	0.4
2050	37.6	32.4	18.0	13.1	39.4	33.0	18.1	12.0	12.2	8.2	2.9	1.2
Country	Switzerland				United Kingdom				United States			
1970	13.1	9.3	2.2	1.3	15.6	10.3	3.1	1.4	11.1	8.3	2.3	1.5
1990	17.1	11.9	4.9	2.4	18.4	12.9	5.0	2.2	14.6	10.4	3.7	1.8
2010	19.0	14.7	6.2	3.4	17.8	14.5	5.6	3.3	14.6	11.4	4.5	2.7
2015	19.9	16.1	6.3	3.7	19.2	16.3	5.7	3.7	16.3	13.2	4.6	2.9
2030	24.8	22.0	8.3	6.0	22.8	20.0	7.5	5.7	22.3	19.1	6.3	4.5
2050	29.9	26.9	13.1	10.4	26.1	23.3	10.7	8.6	23.6	20.8	9.4	7.3

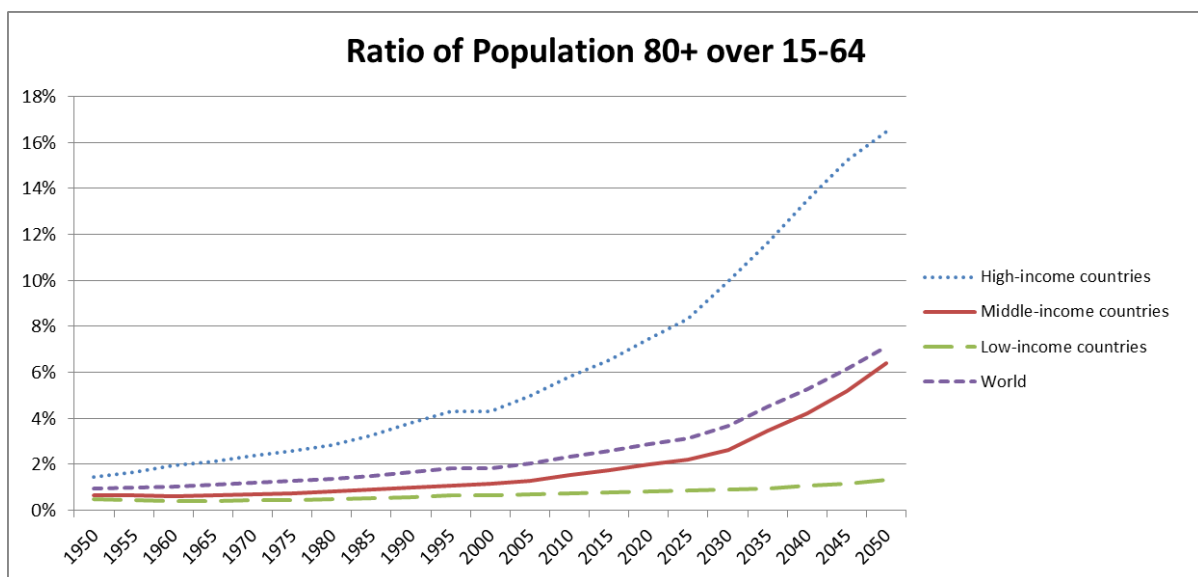
Source: The World Bank. World DataBank, extracted 9-12-2016

There are at least two metrics that can be used to determine the extent of support needed to provide LTC:

1. The percentage of the total population who are older than age 80, which can be useful in determining the expected need for LTC services. Percentages by gender for selected countries by year are shown in Figure 3; and
2. The ratio of the population at least age 80 to those of working age (the very old dependency ratio) estimates the relative size of the population that can support those who are likely to require LTC support as shown in Figures 4 and 5.

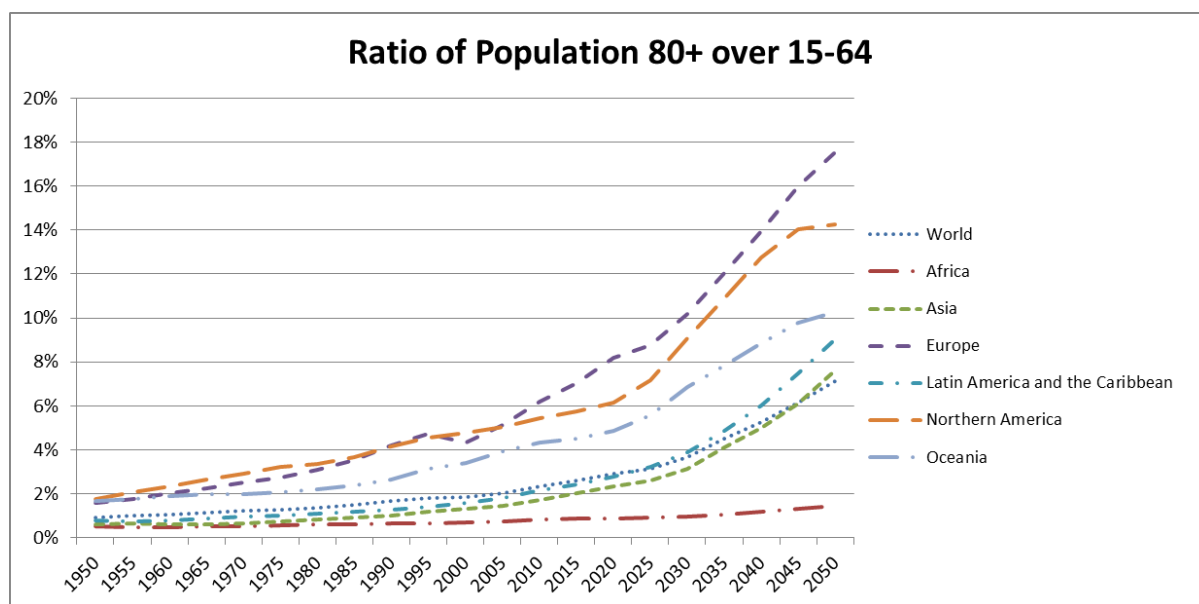
As the baby boom generation ages, the percentages greater than age 80 in many countries will continue to increase, inevitably accelerating the need and demand for LTC services.

**Figure 4 – Population aged over 80 per 100 of population aged 15 to 80, by income level**



Source: United Nations 2015 Revision of World Population Prospects

**Figure 5 – Population aged over 80 per 100 of population aged 15 to 80, by continent**



Source: United Nations 2015 Revision of World Population Prospects

While the prevalence of chronic physical or mental conditions causing a significantly increased degree of dependency at older ages, such as 80 and older, have become recognized and addressed in developed countries, this situation is also becoming more common in less developed countries.

A complicating demographic factor is the decreasing fertility rate that, in many economically advanced and some middle-income countries, has fallen below the replacement level. This, coupled with a decline in traditional family and marriage structures, increased mobility, and changes in lifestyles, have resulted in the following consequences, which can differ significantly by country or population sector:

- **Families.** Families now have fewer children, resulting in smaller family sizes. This reduces the availability of family support for the elderly. In many countries, the family and often the oldest (or in some cases, youngest) daughter, provided the primary support to the elderly. As the number of children in a family decreased (especially the number of daughters), the level of family care has decreased, requiring caregivers from outside the family. More divorces and increased mobility have also led to fewer spouses/partners to provide family support services.
- **Labour mobility.** The increased physical distances from parents or grandparents is the result of greater mobility, especially to urban centers and migration for economic and other reasons.
- **Lifestyles.** There have been considerable changes in population lifestyles that affect family and household formation, including child bearing and child rearing. More women, who may have been typically counted on to provide informal care in the past, have entered or are entering the workforce. There are also an increasing number of

separated or non-traditional families, as well as an increasing number of single individuals.

- Formal (paid) caregivers. A shortage of available and qualified nurses and geriatric workers in institutions such as nursing facilities, as well as in the general population, is expected to put a premium on such workers, just when the need for such workers is expected to increase as a result of the decline in informal (family and friends) caregivers. Although this need might be met partially by workers who migrate from less-economically developed countries, this approach may be problematic in some areas of the world.

All the above leads to more elderly adults with fewer supporting people. Additional pressure is coming from the shortage of financial resources, which are required for LTC support, including:

- Lack of sufficient savings. Having an “implied” retirement age<sup>1</sup> in many countries has created for some a false expectation as to one’s working lifetime. Given that a considerable number of people do not save enough during their working lifetime, as well as lower investment returns on savings (i.e., interest rates), the financial position for many retirees will be bleak, especially as they reach ages when LTC services are needed.
- Societal financial support. Proportionately fewer individuals of working age, decrease the relative financial support for the elderly and LTC, which in turn reduces the financial ability for societies to support those of advanced age, especially given the dominance and needs of pay-as-you-go retirement and healthcare systems.
- Cost containment and eligibility limitations in providing health services. These can include pressure to reduce lengths of stay in acute care (hospitals and short-stay) facilities, resulting in increased demand for more specialized geriatric facilities and services.

Consequently, available resources for the elderly (those aged 80 and older), often the weakest segment of society with the least ability to fight for their needs or acquire additional financial resources, may dwindle, even before the demand for care services soars. In sum, on current trends in many countries, demand for LTC will soar whereas the supply of services may decline.

Because the need for and therefore the cost of LTC services increases significantly starting at about age 80 and older, this enormous cost burden has not yet been fully felt in most countries. The larger birth cohorts have not yet reached the critical ages, and as such, many countries are not adequately prepared for the looming financial effects. However, its huge financial impacts will become more apparent over the next decade or two, and particularly

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<sup>1</sup> See IAA (2016) “Determination of Retirement and Eligibility Ages: Actuarial, Social and Economic Impacts” for further discussion

for countries with a significant baby boom generation who are nearing retirement and with long life expectancy, so society should now be preparing to adequately provide for LTC. Indeed, this challenge has already affected aging countries such as Japan, because of its high longevity and low fertility rates.

The financing and provision of LTC requires planning that will include burden-sharing between communities and social security programs, between the public and the private sectors, while simultaneously attempting to provide greater individual freedom and choice. Actuaries need to be a part of this process.

At the same time, overall governmental financial resources are also under severe strain from other commitments, including the need for healthcare and general retirement support for the ever-aging bulge in population now near to or shortly after retirement age (“baby-boomers”, and soon the “millennials”, in many countries). Because of lower fertility rates, and the resulting decline in the work force, this will not be a one-off issue, but rather a continuing one.

These factors point to an enormous future need for LTC services, resulting, in most countries, in an ever-increasing share of GDP needed to cover these LTC costs.

Undoubtedly, because of short-term financial, economic and political pressures, preparation for the important demographic and financial challenges of aging populations and increased LTC needs has been inadequate by most individuals and most countries. The cost of addressing LTC needs has only begun to affect OECD countries’ resources and budgets – and it will continue to grow. The increased cost is a result of the sharply increasing percentage share of the population aged over 80, as shown in Figure 3, from 4% in 2010 to 9.4% in 2050 and the increasing ratio of the population of those over age 80 to the population between ages 15 and 80, the very old age dependency ratio as shown in Figures 4 and 5.

According to OECD (2011), the growth in total LTC spending in OECD-EU countries was expected to be increase between 2006 and 2050 at a steady rate of just below 3.5% per year. This compares with spending in Japan for LTC spending over the same period that is expected to grow at 4.4% per year between 2006 and 2025 compared to 2.6% per year over the period 2025 to 2050, as Japan will already be a super-aged nation by 2025. In contrast, LTC spending in the United States is expected to grow at an average annual growth rate of 3.4% before 2025, and 3.9% between 2025 and 2050 because of the effect of the post-World War 2 baby boom. These rates are appreciably greater than the corresponding expected rate of inflation, which suggests that the growth in this cost (due to an increase in the number affected and the cost of services resulting from imbalances in supply and demand for LTC services), which for example has been estimated to be about GBP132 billion annually in the U.K. alone, will likely increase faster than the growth in GDP in many countries.

In addition, most such financial statistics encompass public spending on LTC. Private out-of-pocket spending and the economic value of informal caregiving also should be considered, which is already large and will continue to increase.

While it is impossible to predict how the market for delivery of LTC services will change in the future, changes will occur. Both high and low tech innovative methods of delivery of care unimagined as recently as a decade ago are being found in many areas.



Equally uncertain are changes in consumer and cultural preferences and the extent and type of roles governments will play in the delivery of LTC services. Attitudinal and public policy changes may drive changes in the propensity and need to utilize LTC services. Although relatively few governments in an era of tight budgets will likely be able to take on the significant long-term financial responsibilities associated with LTC alone on a sustainable basis, many will be forced to address these issues at some point.

Of course, the delivery and financing of a sustainable system of providing for LTC services is not the only issue that results from the aging of a population. Nevertheless, because of its immense size primarily affecting the oldest population segment and because in most countries its most significant effects will not be felt for more than a decade, it is extremely important for society to recognize and plan for this demographic shift in advance.

This paper will delve into these issues and offer key factors that policy makers, those who eventually may need LTC services, and caregivers should consider in planning how to best address providing LTC services.

## CHAPTER 3. DELIVERY METHODS

LTC helps people of any age with certain personal needs, including basic activities of daily living over an extended period. It can be provided at home, in the community, or in various types of facilities. The level and types of LTC services that one requires will generally change over time. For example, individuals may only need occasional help with a few activities of daily living and choose to receive that assistance in their own home. However, as health deteriorates, they may begin to require more regular assistance and choose to move to an assisted living center.

As seen in Table 2, there is a variety of options available today in many countries for a person in need of LTC support. They include home care, community services, assisted living, continuing care retirement communities (CCRCs), and nursing homes. An overview of each of these options is provided in this chapter.

**Table 2 – Range of LTC options**

	Home Care	Community Services	Assisted Living	CCRC	Nursing Homes
<i>Help with daily living</i>	X	X	X	X	X
<i>Help with healthcare needs</i>	X*		X	X	X
<i>Relative cost per patient</i>	Low to High	Low to Medium	Medium to High	High	High

\* provided by resources external to the home

### CARE AT HOME AND IN A COMMUNITY

The family and the community are the basic constituents of societies. The availability of LTC services by these support groups depends in part on their feelings of responsibility to their members and to each other, as well as their ability and willingness to provide such support. Where this type of care is not available, risk transfer through public or private means, such as government programs or insurance, may be needed.

**Home care and caregivers.** LTC services may be provided at home by a combination of informal caregivers (family, partners, friends, neighbors and volunteers, often based on personal relationships) and formal caregivers (external, almost always paid). These caregivers support those who require at least partial assistance with either ADLs or IADLs or need limited medical care, and can be provided by a geriatric nurse, physical therapist or paid caregiver, the latter of whom sometimes lives with the affected individual. Traditionally, home care services for the elderly and care-needing patients were often provided by family members. This location (situs) of care is preferred by many and for many more is the only available practical approach, the result of financial constraints and socio-economic status.

With changes in the social structures observed in both developed and developing countries, family-provided home care is becoming problematic or in many cases even impossible. Thus, there is increased reliance on other informal caregivers such as friends, neighbors or religious community members who provide unpaid care out of love, charity, respect, or friendship, or on formal caregivers who are paid for their services, such as home health aides, nurses and therapists.

In general, there are two types of care – skilled care and custodial care. The first is often by licensed medical personnel, while the second is provided by aides, volunteers, family or friends. Both skilled and custodial care can be provided at home, as well as in care facilities.

Skilled care can be given only by, or under the supervision of, skilled or licensed medical personnel. Such services include monitoring vital signs, diagnosing medical issues, prescribing medical tests and medications, and providing therapy and counseling. Custodial care, in contrast, assists with personal care or activities of daily living such as bathing, dressing, and eating. Also, custodial care is common for those who are disabled, as well as for seniors with dementia, including Alzheimer's disease.

The level of custodial care expressed in terms of daily hours varies considerably. In some cases, a few hours per week will suffice, while in complex cases such as those involving cognitive issues, 24/7 support may be needed.

While caregivers are generally not well remunerated, paid care provided in a home environment can still be expensive overall, especially if care is needed on a 24/7 basis. In the United States, for example, the 2016 median average cost for a home health aide was US\$20/hour (Genworth (2016)). This makes the use of a non-family home caregiver beyond the means of many families.

Depending on the country, government support can be limited. For example, the support provided through Israel's public program in 2016 is limited to between 10 to 18 hours weekly for someone who needs comprehensive caregiving support. Thus, the family of most LTC patients cannot rely solely on government or indeed private insurance for effective financial support for intense caregiving.

For the elderly who live at home, particularly those without readily available assistance, emerging technologies are beginning to offer new ways to provide home care, for example, by means of a virtual companion (e.g., through robots or as part of the Internet of Things) or remote support. This may help the quality of life of elderly persons who need companionship and mental stimulation to reduce loneliness and isolation, as they spend long periods of time by themselves, but do not necessarily need direct assistance.

A range of technologies are beginning to be used in monitoring potential deterioration of health, including the use of motion sensors (e.g., use of "walking lines" sensors placed on a ceiling to monitor gait speed) or sensors placed in pill boxes that demonstrate medication adherence. This is in addition to passive in-house monitoring tools that have been used extensively in the past, including baby monitoring devices used when a family member is in another part of a house.

Another dimension includes the use of a virtual medical assistant to periodically measure the person's medical vital signs and provide medication reminders or automatic medication

dispensers. However, the adoption of virtual companion care is limited by local access constraints to, availability, and cost of relevant technology and infrastructure (e.g., access to computer/tablet and internet). The use of such companions is increasing fast because of the use of smartphones and their applications. However, because many older patients do not yet feel comfortable with this type of technology, its spread still has a long way to go. Pets or low-tech devices such as emergency response systems generated by pulling a drawstring in the apartment – or by not pulling it by a certain time of the day or by means of a bracelet alarm, can also be useful.

**Community services** are support services that help people who are usually cared for at home by their families. While some services are provided by volunteers or charitable programs, most community programs are paid for, with some financed by government, especially in the local area, or not-for-profit programs. These services can include adult day care, meal programs, transportation, social services and advice, and custodial services. For example, adult day care services can provide a variety of social activities, assistance, and supervision in a safe environment during the day. Such services give family caregivers an opportunity to continue their daily work or receive well-deserved periods of rest.

Meal programs provide meals in a group community setting or delivered to home. Transportation services help get the disabled or elderly persons to and from medical appointments, shopping centers, entertainment and other destinations. Homemaker services may also be available to assist with general household chores, meal preparation, and errands.

The Village movement (at least in the United States) or block-clubs are examples of a sharing self-help approach. It usually consists of a set of local community-based organizations that band together to support aging-in-place and to offer means for seniors to help each other. The Villages help people find others to help them, often on a volunteer basis. Some keep track of and build credits to enable enhanced self-help, with access to help when needed.

### **CARE IN A FACILITY**

A wide range of residential accommodations is provided under the umbrella of senior or independent living facilities, including those that provide a continuum of care. The variations are the result of relative demands/needs, affordability concerns and competition, as well as requirements of government and insurance programs.

LTC in residential facilities is generally provided by a team of trained and licensed caregivers, as well as aides. These caregivers, including non-medical and medical staff, collaborate to assess patients' needs, create individualized care plans, and offer medical and personal care. Facilities may have different medical specialty access (especially geriatric care), resources (e.g., equipment, on-site nursing resources, staff-to-resident ratios), and capabilities. In many countries, these facilities are licensed and regulated by the government. Rent or a fixed fee is required to stay at each level of residence, and transfer can be made between their levels, depending on the current condition of the resident.

**Assisted (independent) living centers** provide a residential care setting for those who need some assistance with their daily activities, but can live independently and do not need as much care as provided by a nursing home as described in the next paragraph. Some seniors

may move to an assisted living center after a period of stay in a rehabilitation facility or hospital, while others move directly from their homes. Assisted living residents usually live in their own apartments or rooms, while sharing common areas. They have access to services that include meal services, assistance with personal care, help with medications, nursing resources, housekeeping and laundry, 24-hour but not one-on-one supervision, security, onsite staff, and recreational and wellbeing activities. They can also provide a convenient community, enhancing quality of life and facilitating social interaction. These centers usually provide several levels of care, corresponding to residents' current functional abilities, with residents paying more for more intense levels of care.

**Nursing homes** (or skilled nursing facilities) provide care to people who cannot be cared for at home or in the community. They offer 24-hour nursing care to those who are chronically ill or injured, are unable to perform several or most ADLs, are unable to function independently, and require full-time care and support. They provide the highest level of care along the LTC continuum, with a full range of services that include medical and personal care, rehabilitation services, meals, recreation, and around-the-clock supervision. This is often the final stage in the transition from independent living to a permanent residential facility.

Most nursing homes also offer temporary care. For example, some people stay at a nursing home for a short time after being discharged from a hospital. Once they recover, they often return home. However, most nursing home residents live there permanently as they have physical and/or mental conditions that require constant care and supervision.

Nursing homes can also fulfill the needs of certain patients through outpatient services. For example, patients may be brought to the facility for physical, occupational, speech or respiratory therapy or rehabilitation; testing, fitting or training in the use of prosthetic devices; social and psychological services; nursing care; or medications that cannot be self-administered.

**Special care units** are available and can take on different forms within each type of residential care. For example, a memory care facility is designed to meet the specific needs of individuals with Alzheimer's disease and other dementias. These are specialized nursing homes or are a separate wing of a nursing home. Such a unit is often organized in clusters, where people with similar conditions, such as dementia, are grouped together on a floor or a unit within the nursing home or assisted living center. Those suffering from cognitive illnesses may live with this condition for a long time, over which the continuous and intense care needed may not be able to be provided by family members who need to continue with their own lives. Since such patients cannot live in their own homes on their own, there is often a high concentration of these memory loss patients in nursing homes.

Some facilities may offer incontinence care and other special services. Special care units have trained caregivers that focus on a particular specialty (e.g., care for people who suffer memory loss) and offer specialized services and activities.

**Continuing care retirement communities** (CCRCs, also referred to as life plan communities or Continuing Care at Home) allow seniors to remain in the same community setting by offering different levels of accommodation across the LTC continuum. A CCRC is a membership community that provides services and care based on what each resident needs over time,

which is generally categorized into one of three stages: independent living (in the form of houses or apartments), assisted living, and skilled nursing care. Healthcare services and recreational programs are provided onsite, as well as certain support services such as meals and transportation. A CCRC offers group living for security and social purposes. A distinguishing feature is that they often require a significant non-refundable initial deposit for what are often lifetime stays, which results in limiting their availability only to the well-off. In a sense, CCRCs provide a form of LTC insurance for a special segment of those in need of LTC related services.

The risks of operating a CCRC to be reflected in operations and actuarial projections include: (1) development or maintenance of enough members to cover fixed operating costs, (2) selection of members relative the longevity assumption in the up-front fees and (3) ongoing costs are consistent with the budget for the community.

### **ACUTE HEALTHCARE**

In general, acute healthcare services are provided by facilities, such as hospitals and outpatient care facilities (e.g., for surgical or diagnostic purposes). Chronic care is not easily facilitated financially or service-wise in these facilities. Hospitals and short-stay facilities are often under severe financial (and resource) pressure to limit their patients' length of stay. Thus, after the need for acute medical care or observation is over, transfer to a less-intensive facility is often called for. Intermediate, sometimes referred to as rehabilitation facilities, are used for stays of between one to six months.

Nevertheless, healthcare is often provided by nurses at a patient's home or community and, depending on its size, there can be a healthcare unit housed in an assisted living facility. As both financing and resources that provide for acute care and LTC get increasingly constrained in the future, patient transitions between the two may be subject to increasing pressure.

### **PALLIATIVE AND HOSPICE CARE**

Hospice care is provided for the terminally ill. Also referred to as end-of-life care, it often includes palliative care, which relieves patients of their pain and suffering rather than treating specific underlying acute conditions in the last days, weeks or months of their lives. It addresses not only physical needs, but also the psychological, spiritual and emotional needs of patients and their family and friends, with emphasis on the quality of the remaining lives of the patients, and the well-being of their relatives and friends. Hospice services are provided by local hospice organizations for patients who usually receive care at home.

These LTC services can be delivered at any site, although are often given at a specialized site, inpatient setting at a hospital or a nursing home. In some cases, just prior to death, acute care is not needed; thus, palliative and hospice care can be provided at home with proper support staff, to give the individual a comfortable last few days, weeks or months of life.

## **CHAPTER 4: LTC NEEDS AND HOW THEY MAY BE MET**

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This chapter first describes the general evolution in the provision of LTC -- from families to communities and eventually governments. It then describes a typical process that individuals follow, based on their evolving personal, medical, and quality of life needs, relating to the resources and facilities discussed in Chapter 3.

LTC needs arise from the reduced independence and inability to perform daily personal activities and tasks. The resulting increased dependence on others usually arises as a byproduct of increased age, frailty, chronic physical or mental condition, and certain life events, such as stroke or injury, which may occur at any age. The focus of LTC is on the management of a lifestyle dependent on others to help perform these activities. Although these needs and the long-term care process can be looked at in financial terms, it also should be assessed in terms of how to seek the most appropriate and humane treatment of the elderly.

### ***THE EVOLUTION OF THE LONG-TERM CARE PROCESS IN SOCIETY***

LTC needs have always existed, but in ancient time and through the Middle Ages, the LTC needs of aging parents and relatives were always taken care of by the extended family. In certain cultures, such as Vietnam, the older son or daughter was responsible for this care, and usually received the property of the parents for these efforts.

Historically, cultural values were rooted in the centrality of the family and household. Support was provided by all family members. This was almost universal, such as support by grandparents taking care of the children when young and older children caring for elderly parents in both Western and Confucius societies. Similarly, Islamic teaching is to care for your parents as they cared for you when you were a child.

Some of these traditions began to crumble with the onset of the Industrial Revolution, which resulted in migration by individuals and nuclear families from rural areas to cities. Support by the family of rural parents and the needy fell by the wayside, the result of which was that those people remained alone, often with minimal support. The process continues to this day, as is evident by the hardship of the elderly in rural China and other countries. The problem is compounded by the lack of governmental support in many developing countries, where until now, society relied on family and community support. This problem is also evident in, for example, the aging villages of Italy, where there is an insufficient number of young adults who can take care of their elders.

Life in cities has not been much better for the aged and disabled, as changes in the familial structure, and a reduced sense of obligation to former generations, have resulted in a lack of available informal caregivers.

An additional, if not primary, source of support was the community. The aging and disabled were surrounded by their immediate families, which in turn were encircled by their extended family, all within the community (whether through a village, local religious institution or tribe). The elderly were looked to as the source of continuity and wisdom. Even if one of the support circles collapsed, those within and outside of it could fulfill the

resultant unsupported needs. Because of that support network, central government could avoid providing LTC support.

But this structure has tended to disintegrate over the last two centuries: first with the Industrial Revolution, as noted above, and then with the fading of the traditional familial and religious hierarchy in the twentieth century, as well as the decline of the traditional communities<sup>2</sup>. This forced many central or local governments to “enter the ring” and take responsibility for the wellbeing of their citizenry. In economically developed countries, this trend started with provision of pension income, continued with healthcare and other social services, and eventually in some cases reached LTC more recently. Similar processes are evident in economically developing countries, though many are just at the beginning stages of this process. Nevertheless, in certain countries, largely because of budget constraints, this flow of responsibility has moved to not-for-profit charities, possibly with limited monetary support or tax incentives.

In sum, but differing in importance by region, these changes can be attributed to the decline in the traditional family and community support structure, fewer children in the household, their movement to new geographical areas, longer life expectancy, increased prevalence of multiple health conditions, as well as “gaps” in generations caused by, for example, wars, especially for males, and in several African countries where a significant percentage of a birth cohort might have died from HIV/AIDS. These factors are critical in many developing countries where the traditional family structure represents the caregiving support structure for the elderly, including fewer spouses and children (or children-in-laws) to be informal caregivers. Some of the most important indicators of these changes include reduced marriage rates, increased divorce rates, and reduced total fertility rates. These lead to reduced family and financial support.

These trends are exacerbated by population movement of the young to urban areas, leaving some small towns to age quickly. Especially in areas in which community care is important, this leaves a significant mismatch between elderly care needs and resources and manpower to provide them.

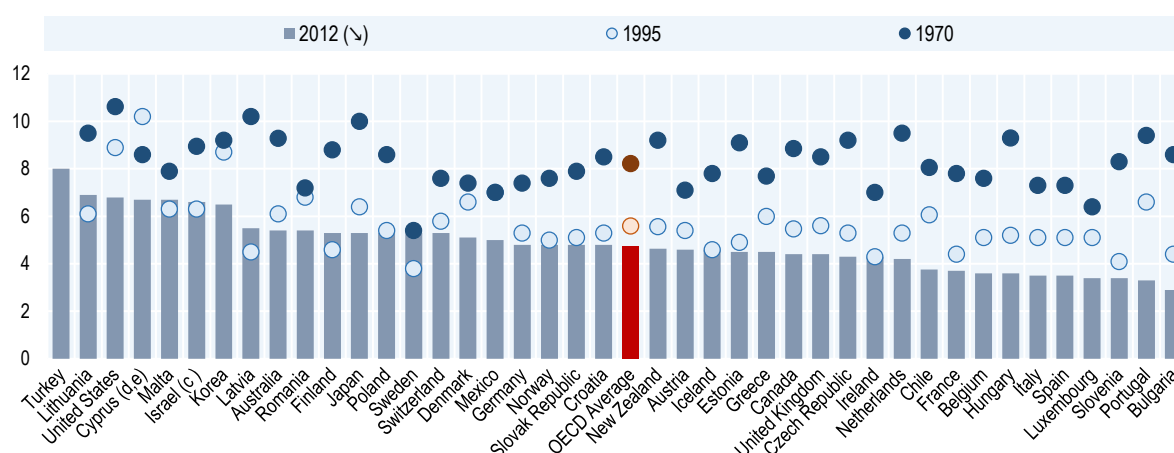
Significant changes in the number and characteristics of marriages are happening around the world. As shown in Figure 6, crude marriage rates have decreased significantly in many countries over recent decades. Further, the increase in age at marriage can put greater strain on the availability of informal caregivers because children of the elderly will still be of working age. At the same time, as can be seen in Figure 7, crude divorce rates have significantly increased in many countries since the 1970s, further weakening the family structure.

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<sup>2</sup> There are still some close religious and cultural groups, such as the Hassidic and ultra-religious Jews, the Amish, and Arab tribes. The discussion here excludes such groups, who continue to take full responsibility for their aging and disabled members.

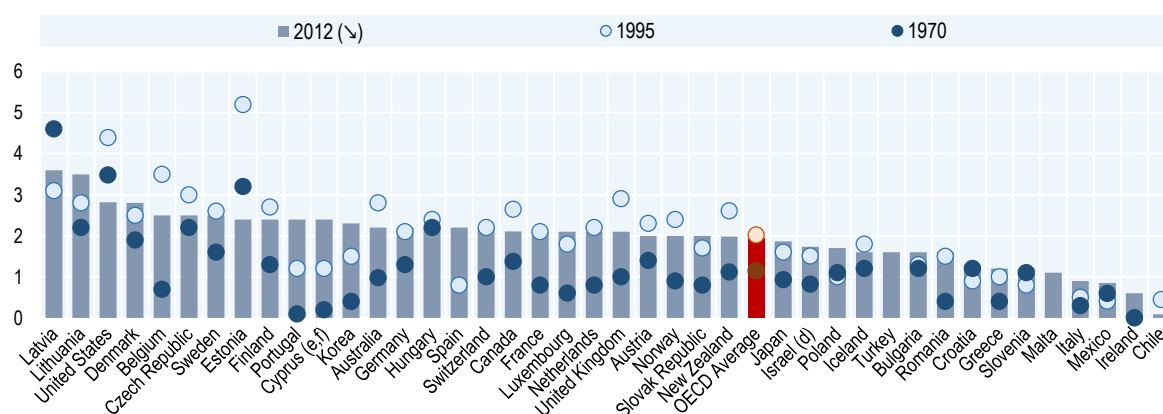


**Figure 6 – Crude marriage rate 1970, 1995 and 2012 (marriages per 1,000 people)**



Source: OECD Family Database

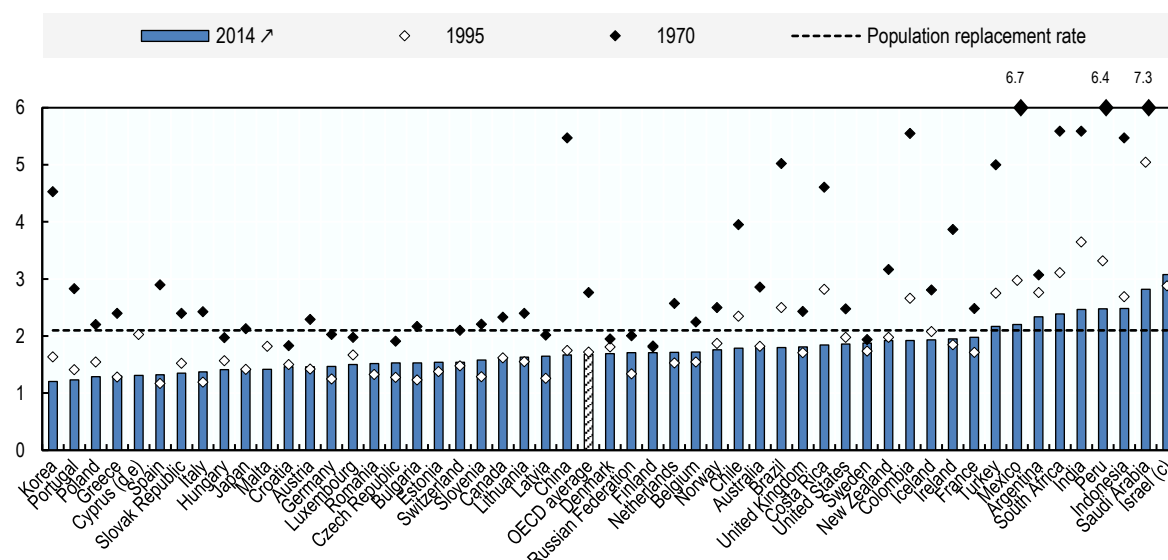
**Figure 7 – Crude divorce rate 1970, 1995 and 2012 (divorces per 1,000 people)**



Source: OECD Family Database

As a result of these trends, together with a reduction in the total fertility rates per woman in many countries, as shown in Figure 8, there has been a fundamental shift away from the social structure that formerly provided strong familial support. Consequently, many elderly today do not have children or are not living with their adult children, which diminishes the viability of home care in a traditional family or even community setting.

**Figure 8 – Total fertility rate 1970, 1995 and 2014 (children per woman)**



Source: OECD Family Database

Resources available to meet all the needs faced by the central governments in developed countries are generally insufficient relative to the resources needed. Thus, local government and communities need to participate in the LTC process, providing various services of use to the aging and disabled. A good example is an adult day care facility, which, because of economies of scale by providing services to a group rather than an individual care, is less expensive. In some cases, local or national governments have gotten involved when it became evident that communal or local provisions were too inconsistent, did not maintain an acceptable quality of care or lacked adequate financial resources.

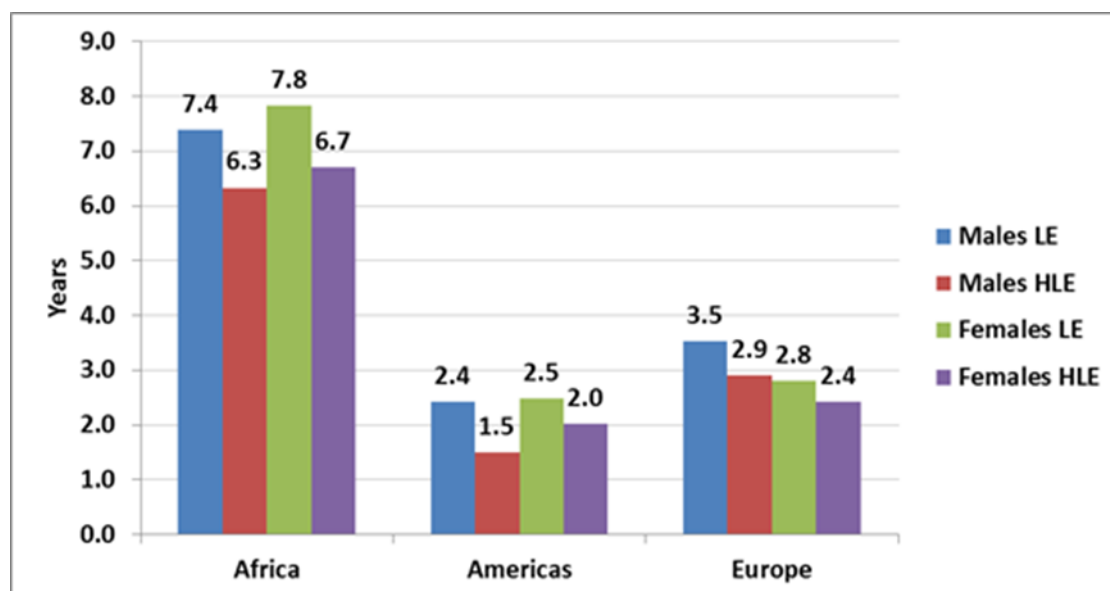
At the same time, a great deal of the burden was transferred to voluntary not-for-profit organizations. This is in line with the trends of volunteerism in the developed countries, where many civil and communal roles passed from the central government first to the localities and communities, then to neighborhoods, and finally to voluntary organizations. While this may be a desirable trend, it should be remembered that in times of crisis, these volunteers may be unable to face the load and tasks they have undertaken.

As the number of the elderly increases, communities tend to experience financial and resource strain to provide these services. In addition, although life expectancy has continued to improve, in many countries healthy life expectancy has not kept up. Between 2000 and 2013 for African, American and European member countries of WHO, healthy life expectancy increased more slowly than regular life expectancy. As shown in Figure 9, life expectancy in African countries increased on average by 1.1 years more than healthy life expectancy over this period, while for the Americas and Europe, the lag in healthy life expectancy increases was less, especially for females.

Similarly, Salomon et al. (2012) analyzed 187 countries in 1990 and 2010, concluding that “for every year of increase in life expectancy at birth since 1990, countries have on average gained only ten months in healthy life expectancy. At age 50, each year of gain in life

expectancy corresponded to gains in healthy life expectancy of only about nine months.” This means that the period during which assistance is needed by the elderly may continue to expand. Nevertheless, this morbidity expansion has not been observed for all countries and all time periods, e.g., see Stallard (2016) regarding the United States.

**Figure 9 - Increases in life expectancy (LE) and healthy life expectancy (HLE) at birth between 2000 and 2013 for WHO member states in Africa, Americas and Europe**



Source: based on the WHO data

<<http://apps.who.int/gho/data/view.wrapper.MGHEHALEv?lang=en&menu=hide>>

Lindgren (2016) provides a thorough discussion of the basis for alternative hypotheses regarding the future length of utilization of LTC: an expansion of morbidity, a compression of morbidity and dynamic equilibrium. Length of use of LTC services and its trend will likely differ by country and population segment, because of an expanded set of actual and perceived needs resulting from the (1) prevalence of multiple chronic conditions and (2) changes in behavior regarding the willingness to make use of LTC services, especially as delivered at home and in assisted living facilities.

In any case, as populations age many of these programs (and their components, including specialized transportation, nutrition, residence and one-on-one assistance) as well as society (both on an individual and government levels) will experience significant financial strain.

### **THE LONG-TERM CARE PROCESS FOR AN INDIVIDUAL**

The processes over which individuals come to need LTC differ significantly. The situs and support needed to effectively perform their ADLs and IADLs can vary widely by individual and their family and income/wealth circumstances, as well as the cultural attitude of their community and country. In addition, physical and mental shocks can affect individuals and their family, which can dramatically affect the timing and intensity of their needs. Nevertheless, many follow a similar progression of needs as they age – it is rare for their needs to diminish over time. Both psychological and financial transitions between types or

stages of care can be difficult for the individuals involved and their families. The general process is described in the following.

### ***The home Residential stage***

A typical LTC process commences with the onset of reduced physical or cognitive ability while living at home. It can be accompanied by increased frequency of memory, and sometimes cognitive, loss, reduced ability to care for personal needs such as dressing or bathing, and reduced mobility with increasing reliance on walking aids. These in turn reduce the ability of the individual to perform daily tasks, as well as increasing risks of living alone.

This “home residential” stage of the LTC process is often accompanied by deteriorating independence and life abilities, eventually necessitating gradually increasing support by caregivers. These may be family members, hired aides, specialized professionals, or community and state-based services. These caregivers allow individuals to remain in their prior place of residence, be it the individual’s house or apartment, or that of a child or another family member. Overall, for both cost and emotional reasons, this aging-in-place stage, where practical, is often considered to be more desirable than care at an institution.

Community support can also provide both physical and emotional support. Such programs as adult day care or caregiver-sharing that can provide needed services (if nothing else than a friendly face, someone to talk to or play a game with) to a group of the elderly at the same time. This can allow the individual to continue to live at home, if feasible, with some personal interfaces on a regular basis – this is particularly valuable if no family member or close personal friends are often available.

The home residential stage can bring emotional hardship to all the family members involved, as well as friends and relatives, which cannot be assessed on a strictly monetary basis. Similarly, there often is a significant reduction in other family support (e.g., being with children) because of the caregiving effort needed, consequential stresses and time pressures for everyone involved.

This stage may also include major financial burdens, including: lost income by the patient and family caretakers; cost of external caretaking; transportation and mobility-support devices; home-architectural modifications such as a motorized chair to carry the patient to the second floor; additional healthcare costs; cost of specialists such as nurses and physical therapists; and cost of external community and state supported services such as adult day care.

It can create economic and financial costs to society because of tax credits for caregivers (e.g., caregiver credits in Canada), caregiver benefits by special programs (e.g., compassionate leave benefits of the Canadian Employment Insurance Program) and loss of work productivity by family caregivers.

### ***Assisted living stage***

A typical next stage in the LTC process is often entry into an assisted living facility. In such a facility, the individual and possibly a spouse/partner live in a small, reasonably comfortable living arrangement. The separate apartments are monitored by a team of specialists, including medical support staff, physical therapists, social workers, house maintenance

workers and psychologists. The assisted living facility often provides additional services for the community of residents, including dining room, library, hobby rooms and gym – to improve the quality of life.

Many of those who can afford assisted living facilities are still at least partially independent and reasonably mobile, and move to such facilities on their own or by persuasion of family members. At the same time, as people continue to age, more people move to such facilities in preparation of their expected decline over time.

These facilities can be quite expensive. For example, in the United States the median annual cost of a one bedroom apartment in an assisted living facility was US\$43,549 annually (Genworth (2016)).

Further, living in such facilities may require additional costs, including transportation, personal caregivers and additional healthcare costs. Since in some cases there are also significant entry fees, the cumulative cost easily can exceed half a million dollars for a lifetime. Because of these financial considerations, the use of assisted living is usually limited only to the upper or middle socio-economical levels of society.

Assisted living facilities often lead to a distancing of the residents from their families, as they are relieved from the burden of taking care of their LTC relatives. In some cases, especially after an initial period, visits tend to decrease in frequency. At the same time the residents may enclose themselves within the “walls” of their facility, and reduce interest in the outside world. This can lead to depression and self-isolation, which may in turn increase healthcare costs.

### ***Nursing home stage***

Eventually, as the physical or cognitive state of those using LTC services deteriorates and they lose most or all independence, closer (even 24 hours) supervision may be required. This is particularly true for those with cognitive issues, whose mobility and lack of cognition and memory make them prone to getting lost.

Many assisted living facilities have available nursing staff or a wing into which assisted living patients with more intensive supervisory needs are transferred. As entry into a nursing wing from the outside can be very costly and often restrictive, the integration of the nursing wing with the assisted living facility provides a “safety feature” to the residents, and is one of the key attractions of the assisted living facility.

At the same time, this can be a very expensive solution, especially if one spouse is living in the assisted living apartment and the other is in a nursing room. Thus, unless heavily subsidized or paid for by a government program or charity, nursing homes are essentially for those who can either afford such costs or who purchase a costly LTC insurance policy, where available.

### ***Hospice and end-of-life stage***

At some point the continuation of the LTC process reaches a state where death is close and inevitable, and it is determined that no curative or acute medical care can improve the state of the patient. At best, palliative care may provide pain relief, rest and some quality of life until the inevitable end. This is when patients might be transferred into a hospice, either at a

specialized facility or at home. The relative simplicity of palliative care with the goal of minimizing pain and providing a restful environment in the patient's last days with a more relaxed supervision, make hospice care at home possible. In any case, this is a more financially manageable solution than in other facilities or at a hospital. For a detailed discussion on the availability, cost and quality of the palliative care, see "The 2015 Quality of Death Index: Ranking palliative care across the world"<sup>3</sup>.

Death-with-dignity is a technique to end a life full of pain or who is close to death. This remains controversial and is not per se a part of LTC coverage, so is not addressed in this paper.

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<sup>3</sup> <https://www.eiuperspectives.economist.com/healthcare/2015-quality-death-index>

## **CHAPTER 5: CAREGIVERS**

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This chapter discusses the all-important LTC topic of formal and informal caregivers, the ultimate providers of LTC services as described in Chapter 4.

A key element of LTC is ensuring the effective use of caregivers and making available the best situs for care for the individual. As indicated in earlier chapters, caregivers can be family members, members of the community, health aides, facility staff and nurses. Each of these can be in short supply and, in some cases, may not be appropriately trained to provide effective geriatric care and LTC services. In many cases, they may be inadequately remunerated. For instance, if self-funded, often there is no compensation for family members, although some programs provide financial assistance for that source of support.

Caregivers can deliver support services at any situs, whether at home, in a community setting or in a facility. The intensity and types of their services can differ dramatically – from just being around in case something happens, to help with ADLs or IADLs or to provide more intensive medically-related support.

The supply of caregivers is a vital component of the framework for LTC. To increase the supply of informal caregivers, compensation (for their time, lost productivity, adverse health effects, stress and depression) can be helpful. At the same time, it is important to provide such caregivers with geriatric education, training and community support (such as social workers). It is a cost that should be considered by LTC program designers and policy makers in the public and the private market<sup>4</sup>.

Sufficient number or quality of caregivers or facility staff may not be available in some situations, in part due to a lack of sufficient financial resources. Due to the nature of care needed, there may exist a tendency to over-dose or over-restrain patients in ways that could lead to injuries, submergence of personalities or lethargy.

Professional caregivers need professional training – in schools and through programs, including continuing professional education. Without such training, the quality of care can be highly variable. Regulatory oversight may also be required. It should be noted that professional caregivers who work at the patient's home and as live-in caregivers are often foreign nationals whose credentials and skills need to be confirmed prior to engagement.

### **FORMAL CAREGIVERS**

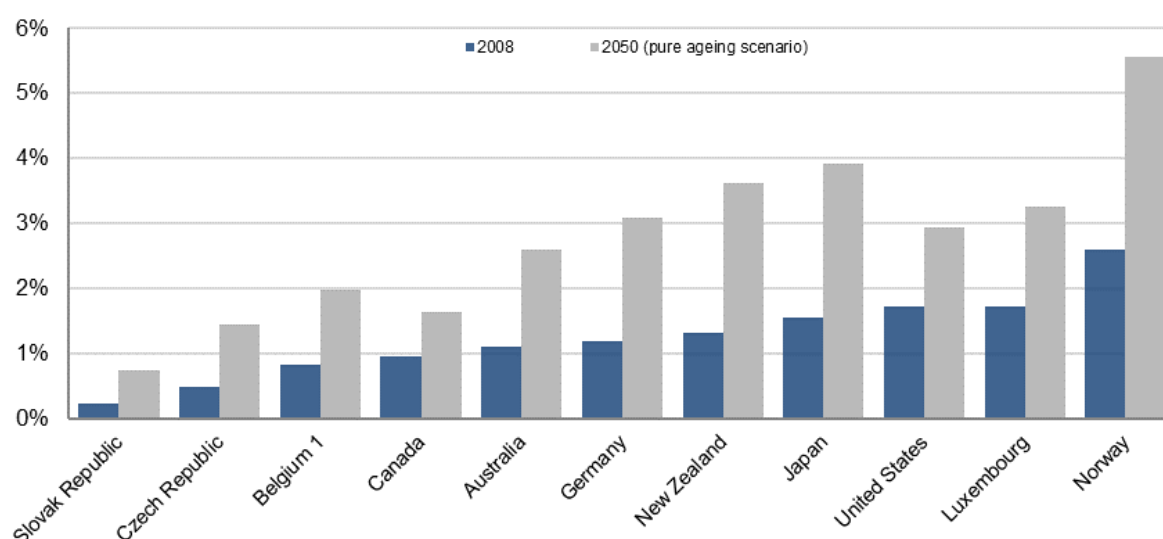
Formal caregivers are often employed by private agencies or by the family/local authority, the facility providing care or by the individual who is not on a low income. The demand for professional caregivers is driven both by the morbidity and mortality of the population who need LTC services and the design of the LTC programs. As such, attracting and training necessary number of LTC professionals should be a part of long-term government policies.

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<sup>4</sup> See example of benefits provided in Canada, discussed in Chapter 8.

According to Scheil-Adlung (2015), there was a global shortfall of 13.6 million formally employed LTC workers in 2015. It appears that with the upcoming surge in needs, this gap will likely increase and will cover both non-skilled and skilled (including geriatric physicians, nurses and therapists) caregivers. According to OECD (2011), as shown in Figure 10, the demand for LTC workers expressed on a full-time equivalent (FTE) basis, is expected to at least double between 2008 and 2050 in OECD countries. OECD (2015) indicates “responding to increasing demand will require policies to improve recruitment (e.g., encouraging more unemployed people to consider training and working in the LTC sector); improve retention (e.g., enhancing pay and work conditions); and increase productivity (e.g. through reorganisation of work processes and more effective use of new technologies).” Expanding this source of employment can help employment growth as well.

**Figure 10 – Percentage of full-time equivalent nurses and caregivers to total projected working population**



Source: OECD (2011), OECD calculations based on OECD Health Data 2010; European Commission (2015); OECD Labour Force and Demographic Database, 2010; and Duval and de la Maisonnette (2009).

Formal caregivers are sometimes hired privately to provide caregiver services. The use of formal caregivers whose cost is not covered by a private insurance or public program is usually limited to those who are particularly well-off financially. Nevertheless, such caregivers are commonly used in residential and in assisted living settings for a limited period. Often, when a family has the financial resources to cover the cost of full support, particularly when long supervision hours are desired, those caregivers sleep at the patient’s residence, which itself requires expenses and additional sleeping quarters.

The management of privately hired formal caregivers may be quite complex. If reimbursed by a LTC program, caregivers may have to be certified to provide such service, with associated reporting requirements. Caregivers may also be entitled to a day (or two) off each week and annual vacation – which implies a need to have multiple or back-up formal caregivers.



As mentioned earlier, in many developed countries, formal caregivers are sometimes immigrants who receive a work permit to act as caregivers. Because of the labour-intensive nature of the work and relatively scant compensation for providing the caregiving functions, not many locals may be willing to compete with immigrants for these jobs.

Volunteer support and programs to foster volunteerism and sharing/exchanging services might expand capacity and provide opportunities for the recently retired. An example is the Village movement. Adult day care or sharing caregivers can also take the form of shared care, where those involved meet at rotating homes in the community, to both enable certain caregivers to have some time off and enhance the quality of life in the care group as a result of expanded social interactions. More use of the unemployed, those recently retired or summer student workers may supplement other sources of care. These can also take the form of transportation support and help with grocery shopping or other daily chores.

In any case, the cost of caregivers, both providing service at the patient's home or providing aide service in a facility, is increasing in many areas. In countries with minimum wages, as pressure grows to increase minimum wages (or to introduce minimum wages rules), the cost of providing LTC services is bound to increase.

### **INFORMAL CAREGIVERS**

Most informal caregivers are family members. According to the National Alliance for Caregiving and AARP Public Policy Institute and a 2015 Genworth survey<sup>5</sup>, the 2015 average family caregiver in the United States is in his or her late 40s and cares for a parent or in-law, with 60% (National Alliance for Caregiving and AARP Public Policy Institute) or 50% (Genworth) of such caregivers being female (much lower percentages than earlier surveys), providing 24 hours/week (National Alliance for Caregiving and AARP Public Policy Institute) or 20 hours/week (Genworth) of care, with 56% of caregivers working full-time. Caregivers are becoming younger – their average age declined from 53 in 2010 and 60% of them are in the 25-54 age group. According to OECD (2015), on average for OECD countries, about 15% of those aged 50 and over act as an informal caregiver as family or a friend (ranging from about 20% to 11%), with 74% providing daily care. The number and pressure on informal caregivers is negatively correlated with the existence of comprehensive LTC systems (such as those in the Netherlands, Switzerland and the Nordic countries).

Social security credit (i.e., an equivalent wage credit when taking time off work) might be provided to family caregivers who give up work or must work reduced hours to care for a family member to provide incentive to provide such care so as not to lose entitlement to their own retirement pension from social security. Family leave benefits, normally given for attending to newborns, might be extended to support for the elderly.

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<sup>5</sup> [https://www.yourlifecure.com/RCenter/LifeSecure\\_CaregivingCosts\\_Infographic.pdf](https://www.yourlifecure.com/RCenter/LifeSecure_CaregivingCosts_Infographic.pdf) and <https://www.hmgltc.com/downloads/BeyondDollars2015.pdf>

Family caregivers can be subject to the “sandwich” phenomenon. On the one hand, middle aged caregivers should fulfill their role as parents to their children with all the attendant financial, emotional, and time consuming tasks. At the same time, they may have to act as caregivers to their ailing elderly parents, whose emotional and cognitive abilities may have seriously deteriorated. This becomes most severe when these two dependencies occur simultaneously. The increased labour force participation of females adds more pressure and hampers the effective performance of these tasks.

In 2014 caregivers of LTC patients in the United States experienced negative feelings and problems indicated in Table 3.

**Table 3 – Caregiver issues**

Issue	Percent of caregivers	
	Facing this Issue	Who report substantial negative aspects
<b>Breathing problems that limit activities</b>	8%	22%
<b>Anxiety</b>	15%	30%
<b>Depression</b>	15%	29%
<b>Fair or poor general health</b>	21%	18%
<b>Weakness that limits activities</b>	29%	16%
<b>Exhaustion that limits activities</b>	30%	28%
<b>Pain that limits activities</b>	31%	22%
<b>Sleep problems</b>	45%	17%

Source: <http://www.lifehealthpro.com/2014/10/27/8-new-facts-about-ltc-caregivers-who-suffer>

In the United States, almost half of family caregivers spend more than US\$5,000 annually on caregiving-related expenses, and about a third spend more than US\$10,000. As a result, 40% of family caregivers live under financial strain and 47% used all or most of their savings. Consequently, at least in part, about 70% of family caregivers suffer some type of physical or psychological problem, with caregiving being the main source of their stress, with the health of about 20% deteriorating during the period they provide care. Further, 54% of these caregivers experienced negative feelings, guilt and resentment, as a result of their caregiving. In addition, being a caregiver is personally costly: 33% of their average income is lost each year to caregiving and 77% of the caregivers missed at least some work time.

Although not explicitly related to LTC caregiving, according to Cameron et al. (2016) based on a Canadian study, most caregivers of critically ill patients (with a mean age of 53 years, about 70% of whom were women, and about 61% of whom cared for a spouse) reported high levels of depressive symptoms, which commonly persisted up to one year following the caregiving and did not decrease in some caregivers (16% of them).

These statistics are alarming, as they imply that most caregiver families are endangering their own financial and retirement savings, in addition to endangering their job stability and mental condition. Thus, many slide into poverty.

As a result, respite care programs have been developed in some areas, providing family caregivers needed relief one or two days a week. In such programs, for example, part-time caregivers can be hired to reduce the mental and physical strain of 24/7 personal care.

## CHAPTER 6: LTC EXPERIENCE AND TRENDS

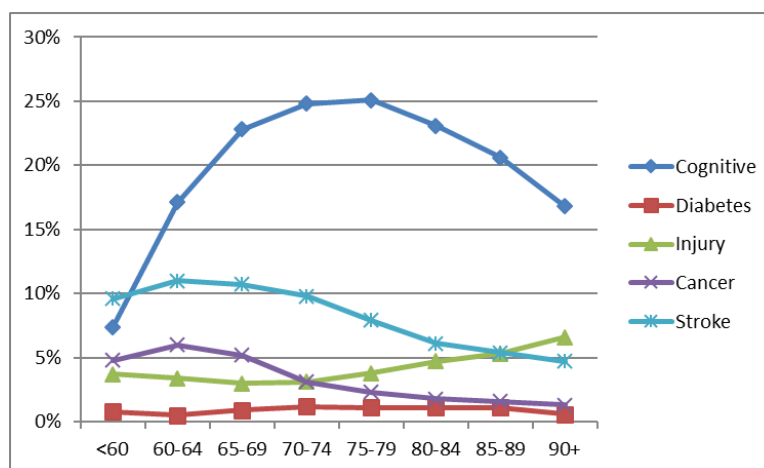
This chapter addresses LTC experience and trends from an actuarial perspective. The early parts of the chapter focus on LTC experience and risk exposures of insured groups. Later sections address morbidity improvement (separately for insured groups and the general population) and provide perspective on other trends that may exert a material influence on future LTC experience.

Particularly given the type and scale of future LTC issues as pointed out in this report, there is a significant need for enhanced and relevant LTC experience data in many countries. It is noticeable that a high percentage of examples of LTC experience presented in this chapter is from the United States, in part due to limited publicly available relevant experience and insurance data in many countries. Such data is needed to ensure sound policy and individual decisions can be made.

### LONG-TERM CARE EXPERIENCE AND RISK EXPOSURE

This section explores the causes of LTC claims at different ages and how certain key drivers of LTC have changed over time. Figure 11 shows the proportion of LTC claims in the United States attributable to reported causes – cognitive, diabetes, injury, cancer, or stroke by age at claim incurral. Note that the causes of a sizable percentage of claims (57 to 74 percent, depending on age) were not recorded; nonetheless, this relatively large percent of unreported data does not appear to have significantly affected the reasonableness of the overall patterns as reported.

**Figure 11 – Analysis of LTC insurance claims (U.S.) by age at incurral and cause of claim**



Source: Society of Actuaries' 2000-2011 Long Term Care Experience Study

Observations regarding Figure 11 include:

- Of the causes of initial insurance claim, cognitive is by far the most prevalent. At ages 75-79, reported cognitive claims represent slightly more than one-quarter of all claims. Over a broader range of ages (65 – 89), cognitive claims represent more than 20% of all claims (40% of claims with a major reported cause), which far exceeds the second most prevalent cause, stroke.

- Exposure to cognitive claim begins to increase materially in the early 60s, reaching a peak in the age 75-79 group. Although somewhat speculative, one reason for the decrease in cognitive claims at older ages is the increasing number of claims due to overall aging, frailty and a decrease in the ability for family caregivers to provide adequate support at those ages.
- Injury (or frailty) claims trend gradually upward by age. By the late 80s or early 90s, injury/frailty claims represent a material risk for LTC policyholders.
- Claims due to strokes show a decreasing trend by age. This could be because strokes at advanced ages are so serious that the policyholder dies shortly after suffering the stroke, resulting in an extremely short claim or one that does not satisfy the elimination period. Alternatively, many insureds experience a stroke after having begun to receive LTC benefits for other conditions.

Table 5 shows the top five causes of claim incidence in Germany; note that this data is not directly comparable to the U.S. data reported in Figure 11, but it suggests that to date a higher proportion of claims in the United States is due to dementia than in Germany. In addition to the differences shown by cause, gender and care level (see chapter 8 for a description), the frequency of new claims also differs significantly by age (not shown), as dementia-related causes increases sharply at advanced age, while cancer (malignant neoplasms) claims dominate at younger ages.

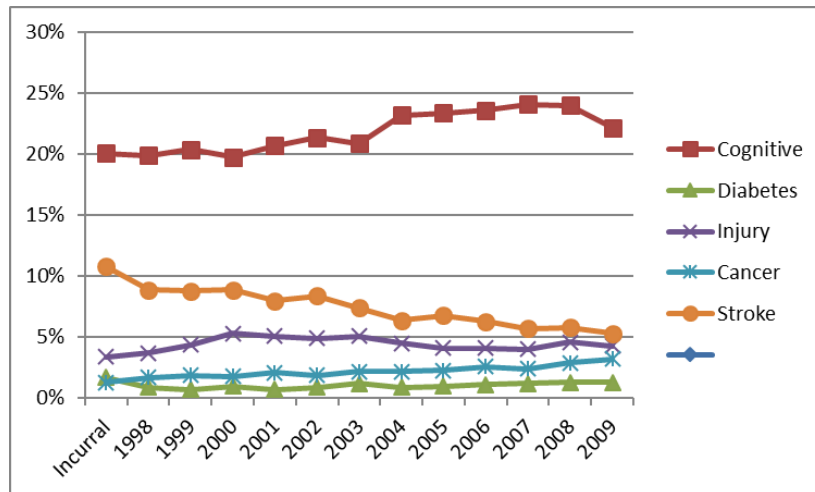
**Table 5 - Claims by care level at incurral and cause of claim, by gender**

Care level (most severe: III)	Males			Females		
	<u>I</u>	<u>II</u>	<u>III</u>	<u>I</u>	<u>II</u>	<u>III</u>
<b>Cancer</b>	27.1%	36.4%	41.2%	17.8%	26.1%	37.3%
<b>Dementia (including Alzheimer's)</b>	11.3	8.6	5.5	11.8	9.9	6.0
<b>Urinary incontinence</b>	8.9	7.1	5.9	14.2	12.0	10.1
<b>Stroke</b>	7.1	6.2	5.1	4.2	3.4	2.6
<b>Parkinson's disease</b>	6.0	4.5	2.1	3.6	2.2	1.3

Source: BARMER GEK Pflegereport 2011, normalized to the German population

Figure 12 examines how the prevalence of certain types of claims has changed over the thirteen years of the U.S. study.

**Figure 12 – Analysis of outstanding LTC insurance claims (U.S.) by incurral year and cause of claim**



Source: Society of Actuaries' 2000-2011 Long Term Care Experience Study

Observations regarding Figure 12 include:

- There has been a general upward trend over time in the prevalence of cognitive claims. In some companies, cognitive claims make up as much as a third of outstanding claims.
- Cancer claims have trended gradually upward throughout the study period.
- Stroke claims have trended gradually downward throughout the study period, although the pattern could be driven by the aging of the business included in the study.
- Frailty/injury claims (to which there is material exposure, especially at ages 90-99) generally have a shorter duration than cognitive claims (to which there is material exposure beginning in the late 60s, as indicated in Figure 11). Over time, it is possible that a larger proportion of claims may be categorized as frailty/injury. However, improved mortality lengthens the period over which policyholders are exposed to cognitive claims and claims generally.

There is a growing percent of the LTC population that is now expected to live to and past age 100. The claims to which policyholders are exposed at these advanced ages are not often studied by LTC actuaries, as there is very little available data. While one can reasonably expect that any claim at such ages would be of relatively short duration, there is a great deal of uncertainty with respect to total claim costs. Claim incidence rates at these ages may be extremely high, even if the claim period is relatively short.

Overall claim prevalence is usually larger for females, as there are so many more females alive at the oldest ages, as a result of their longer life expectancy.

### **PERIOD OVER WHICH LTC IS PROVIDED**

The period over which LTC is provided can be viewed in terms of claim duration measured from the inception of reimbursable LTC services, which for U.S. LTC insurance has varied

materially by age, gender, situs and diagnosis, as well as other factors. The following observations relate to this period, based on the Society of Actuaries' 2000-2011 Long Term Care Experience Study:

- Claims are longest for those whose initial LTC benefits were for assisted living facilities, distantly followed by healthcare provided in the home and then closely followed by nursing home. Assisted living facilities have become regarded as desirable options for semi-autonomous retirement living, rather than for their more intense LTC services.
- Average claim duration of home health and nursing home claims tends to increase by attained age through the mid-80s age range, before trailing off materially into the 90s. In contrast assisted living facility claims show a markedly different pattern than others – claim duration is longest at younger ages and, for the most part, trails off gradually.
- Average claims last longer for females, in part the result of their lower mortality rates. Claim termination rates increase with age, also in part because of larger mortality rates at older attained age.
- Cognitive claims persist the longest (an average of 3.17 years) of major causes of claims, followed by claims resulting from strokes (an average of 2.91 years) and diabetes (an average of 2.51 years).

According to the Health and Human Services (U.S.)<sup>6</sup>, an individual turning age 65 in 2016 has almost a 70% chance of needing some type of long-term care services sometime in the future and 20% will need those services for longer than 5 years. Females on average will need care longer (3.7 years) than males (2.2 years).

### ***MORBIDITY IMPROVEMENT***

*Morbidity improvement* is used in this paper to describe a reduction over time in LTC claim costs for individuals of similar age. Although different countries and different insurance products define disability and/or eligibility for claims in diverse ways, the definition used here is intended to capture a reasonably broad spectrum of conditions that could be categorized as a disability.

#### ***Historical morbidity improvement***

This section provides an overview of factors that have contributed to improvements (e.g., whether related to incidence of disability, length of care, or both) and analysis of patterns that exist in available data.

#### ***Drivers of morbidity-related improvement***

There is a considerable volume of academic and professional literature that documents morbidity improvement in economically developed countries over the period ranging from 1980 through 2010. Broadly speaking, these improvements have been attributed to:

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<sup>6</sup> <http://longtermcare.gov/the-basics/how-much-care-will-you-need/>

- Improved education;
- Changes in socioeconomic standards; and
- Advances in medical treatments

Educational improvements are easily observable and well-documented. In the United States, for example, the percentage of the population age 65 years and older with a high school diploma increased from 53% in 1990 to 72% in 2003 (Langa et al. (2008)). Between 1982 and 2005, the percentage of the population age 70 years and older with eight years or less of education dropped from 46% to 17% (Schoeni et al. (2008)).

Studies (Langa et al. (2008), for example) suggest that improvements in education are also correlated with reductions in LTC costs. The most noteworthy impact of a longer period of education is on a lower incidence and delayed onset of cognitive impairments. Evidence also suggests that the educational effect results in a compression of morbidity, meaning that as disability incidence is reduced or delayed, mortality that follows disability increases, reducing the time an individual requires care and reducing cost. Additionally, improvements in education are associated with a better understanding of proper health maintenance.

Improvements in socioeconomic standards somewhat parallel improvements in education. Studies (e.g., Kim and Richardson (2012)) show that higher level of accumulated assets, higher income, and the purchase of private health insurance (in countries such as the United States) are positively correlated with better overall health and a lower incidence of disability.

Advances in medical treatments may have exerted the most material impact on morbidity trends. Certain drugs – e.g., Cholinesterase inhibitors – were introduced for treatment of Alzheimer’s disease in the mid-1990s. Langa et al. (2008)) cites a reduction in observed cognitive impairment of those aged 70 or older, from 12.2% in 1993 to 8.7% in 2002, during a period that coincides with the introduction of these treatments. However, it is not possible to prove a causal link between introduction of new drugs and improvements in cognitive disability.

The literature suggests that advances in treatment for health conditions such as cardiovascular disease, stroke, and high blood pressure may have also exerted a favorable impact on the costs of LTC services.

### ***How improvements have materialized - incidence vs. continuance***

In most cases, the factors that contributed to historical morbidity improvement (discussed above) appear to primarily affect rates of disability incidence (rather than length of care/continuance). Table 6 summarizes improvement in claim incidence rates of insured LTC (U.S.) over the period 2000 through 2009 for similar policy duration periods. The improvement at early policy durations could be due to one or more factors, including more restrictive underwriting by insurers or policy benefits recently, a younger issue age or an overall reduction in the need for care. In addition to these factors, the limited improvement for new claims at policy duration 9+ could be due to a different mix of insurers who formed the basis of the experience used, there had been a limited change in experience (similar to the German experience shown in Table 7) or that this is an attained age rather than a policy year effect.



**Table 6 – Improvement in LTC insurance (U.S.) claim frequency**

Policy Duration	Average Annual Improvement in Claim Incidence
1-4	3.9%
5-8	2.2
9+	0.1
All	2.3

*Source: analysis of 2011 Milliman Long-Term Care Guidelines.*

In contrast to U.S. data, Table 7 indicates that, at least starting in 1999, there has been little evidence of a significant change in incidence of LTC claims in Germany. This may be due, in part, because the mix of exposures did not change over time as it comes from the entire German Social Security program, rather than from individual insurers.

**Table 7 – German Social Security – incidence of new LTC claims**

Year	Incidence rate
1998	1.11%
1999	0.92
2000	0.86
2001	0.89
2002	0.89
2003	0.85
2004	0.85
2005	0.81
2006	0.82
2007	0.82
2008	0.84
2009	0.87
2010	0.82

*Source: BARMER GEK Pflegereport 2011, normalized to the German population*

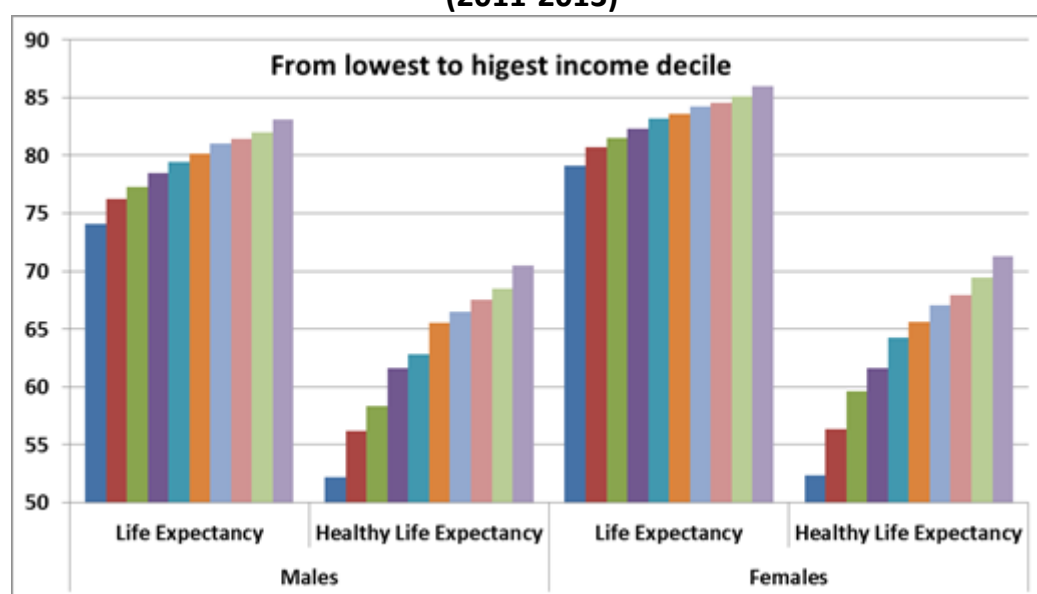
Mortality of both the healthy and disabled (those on claim) populations has improved. When the improvements occur both before and after disability incidence, improvement serves to lengthen the period over which care is provided and increase costs. Analysis of U.S. insured data conducted for this paper shows that disabled life mortality has improved at a rate of about 0.5% – 0.6% per year over recent decades. Much of that improvement was concentrated at low attained ages – e.g., about a 4% improvement at ages 65-69 and 2% improvement at ages 70-74 – with little or no improvement observed at ages more likely to be spent while being provided LTC at ages 85+. These findings with respect to mortality improvement show a similar generational pattern to what is observed in overall data, although the amount of improvements is less.

Other evidence suggests that disabled life mortality may not have improved significantly over recent decades. As noted previously, Langa (2008) found evidence of compression of morbidity associated with increases in education with resultant improvement in LTC costs.

This study found reduced prevalence of cognitive impairments during the period 1993 to 2002 and an increase in mortality rates in the two years following disability. The extent of this compression also differs by income category and between countries. An example is shown in Figure 13 from U.K. data that suggests that the higher the income level, the smaller the difference between life expectancy and healthy life expectancy, that is, the shorter period of needed LTC services.

In developing mortality assumptions, it is important to identify whether the source of mortality experience used to develop assumptions includes healthy and/or disabled life mortality. For example, mortality assumptions developed only from total population data may not be applicable to those who are disabled, who are receiving LTC services or who are covered by insurance.

**Figure 13 – Periods of total and healthy life expectancies by income deciles in the U.K. (2011-2013)**



Source: Office for National Statistics, U.K.

### Other trends and patterns

Several studies suggest that morbidity improvement has been markedly greater in the U.S. population than in U.S. LTC insureds. This may be the result of (1) some LTC insureds were collecting benefits for residential care rather than for morbidity-related services, as the very existence of insurance affects morbidity experience, (2) the effect of selection by insurers and affordability of this coverage, and (3) differences in socio-economic status between the two populations.

Stallard and Yashin (2016) show that non-cognitive disability prevalence rates decreased in the U.S. population by 2.1% per year (for males) and 1.4% per year (for females) between 1984 and 2004. Corresponding cognitive disability prevalence rates decreased by 2.9% per year (males) and 2.6% per year (females) during that period. In contrast, certain subsequent population studies (Freedman et al. (2013)) have indicated that, particularly for younger ages, these decreases may not have continued after that period.

Analysis of insured data from the United States has shown mixed results. Analysis of some companies' experience has indicated that little or no morbidity improvement has been observed over recent decades. Experience of other companies have concluded that morbidity has improved at rates of up to 1.0% to 1.5% per year. The studies that have shown no morbidity improvement could be influenced by behavioral factors, such as anti-selection (i.e., those who are more likely to claim benefits are more likely to continue their current coverage) following periods of rate increases, and may understate true underlying trends.

At the same time, observed rate of morbidity improvement for insured population in the United States has been lower than those observed (by Stallard and Yashin (2016), for example) in population data. The greater improvement in population morbidity relative to insured groups is not surprising given, for example, the effect of insurance and the changes in educational attainment and socioeconomic factors have likely exerted a more favorable effect over recent decades on non-insured data, whereas much of the insured LTC sector has always consisted of those of higher educational attainment and upper socioeconomic individuals.

Other important differences with respect to morbidity improvement between insured and non-insured groups in the United States have often included distinct generational or attained age pattern. While morbidity may have improved up to 1.0% to 1.5% per year in total, improvements have not been uniform across age groups and across policy duration. Morbidity improvement has been greater in early policy durations (see Table 6), but tails off to little or no improvement at later policy durations, which may be a proxy in this case for attained age.

In contrast, Stallard and Yashin (2016) show little or no attained age pattern for rates of improvement for the general population between 1984 and 2004, except at the most advanced ages (95+) where morbidity improvements are slightly smaller than at younger ages. The cause for these differences is not clear, although it could be related to the disproportional impact of educational and socioeconomic changes on the non-insured population.

Analyses of claims data from insured populations over the last several decades have shown generally unfavorable development. These changes may be the result of a change in U.S. actuaries' understanding of the underlying experience rather than necessarily a trend in the experience itself. This understanding may assist actuaries in other countries who assess experience in their countries. These trends include:

- The attained age curve of incidence rates has steepened over time (this may be the result of changes in expectations rather than of deterioration in experience). This is largely because of increases at older ages (90+ or even 95+) where experience has lacked reliability until recent years.
- Incidence rates on plans with lifetime/unlimited maximum benefits are trending higher than previously expected, and greater than incidence rates on plans providing limited benefits. Policies with richer benefits provide little or no incentive for deferring a claim to preserve amounts of aggregate benefit. Thus, this trend may have been driven by policyholder behavior rather than a real difference in the underlying health of policyholders. It is also possible that applicants in poor health may more likely

purchase a relatively expensive policy with lifetime/unlimited benefits than applicants of average or better health, representing evidence of anti-selection.

- Underwriting of LTC insurance applicants has been less effective than originally anticipated or the selection effect wears off more quickly than assumed. This may indicate stricter underwriting is needed of LTC insurance than previously thought or that underwriting standards have been applied less rigorously than intended. U.S. companies have reduced this risk by not offering lifetime policies anymore or selling shorter benefits (e.g., less than ten years).
- Claim durations have lengthened. The cause of this is not well-understood. It may have been caused by a combination of changed cultural attitudes to earlier initiation of paid LTC care especially care at home, increased prevalence of cognitive conditions in those with better than average mortality rates, improved recognition of the insurance benefits available, reductions in recovery rates, and overall mortality improvement.

It has been shown that the generational pattern of LTC morbidity improvement of insured groups has been relatively consistent and correlated with generational patterns observed in insured mortality. Thus, it may be appropriate to consider co-movement of morbidity improvement and mortality improvement that may share many of the same drivers.

### ***Future morbidity improvement***

Despite compelling evidence that morbidity has improved over recent decades, there is considerable uncertainty as to whether (and how) these historical morbidity improvement trends will continue. Gains from several of the primary drivers of historical improvement – namely, in educational attainment and socioeconomic characteristics – may have less of an effect in some populations in the future. Data presented earlier in this chapter show that a substantial majority (72% in 2003) of the U.S. population now holds a high school diploma and the percentage of the population with limited education (less than eight years) is small (17% in 2003). It is unclear whether further changes will have an observable effect on morbidity.

At the same time, certain emerging trends could lead to a deterioration in LTC experience and costs. In the United States and some other developed countries, obesity and associated health problems, e.g., diabetes and other risk factors for cardiovascular disease, are on the rise.

For example, the prevalence of obesity (BMI greater than or equal to 30.0) in the United States increased markedly from 1988 through 2014. In addition, the percentage of adults categorized as overweight or obese (BMI greater than or equal to 25.0) rose from 56.0% in the Nutritional Health and Nutrition Survey (1988–1994 in the United States), to 69.4% in more recent years, 2011–2014. This 23.9% increase (a 1.0% average annual rate) is not expected to continue at the same rate, but it is at an already high level. Similar trends are found in many countries.

Cultural trends, at least in some developed countries such as the United States, may also increase LTC usage. Prior generations who have demonstrated an unwillingness to use professional LTC services (nursing homes, assisted living facilities and home healthcare)

preferred to remain at home or rely upon care provided by friends or relatives, which kept professional LTC costs at a minimum.

This attitude may be changing. First, the generation now entering their retirement years is more willing to accept the use of specialist care, particularly among insured populations where there is a sense of entitlement to services for which one has already paid through many years of insurance considerations, whether through public or private financing. Second, as indicated elsewhere in this paper, demographic, cultural and societal norms have changed so that reliance on family or friends for care may be impractical or undesired. In many economically developed countries, most/all family members of working age are employed outside of the household, making it difficult for them to provide full time care.

On the other hand, medical advancements may continue to drive future morbidity improvement. Effective treatments for cognitive impairments, especially Alzheimer's disease, would change the situation a great deal. Unfortunately, there is no cure on the horizon, although there are reasons to be optimistic that meaningful progress may materialize in the coming decades, although likely to be slow and long-tailed. Some researchers believe<sup>7</sup> that future treatments will involve a drug "cocktail" – i.e., a combination of drugs that work in concert to target a disease – rather than a single "miracle cure".

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<sup>7</sup> [http://www.alz.org/research/science/alzheimers\\_treatment\\_horizon.asp](http://www.alz.org/research/science/alzheimers_treatment_horizon.asp)

## **CHAPTER 7: FINANCING METHODS**

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This chapter describes alternative sources of financing and corresponding program structure that have been used to provide for LTC, both by the public and the private sectors.

Historically and still currently in many countries, there has been limited emphasis for public financing for LTC, as it has been provided by family members, albeit at significant cost of a non-financial nature, as described elsewhere in this paper. In any case, this provision of informal LTC services has and will become less common in the future in most countries, for reasons described in previous chapters.

The financing structures supporting the provision for LTC depends upon the design of the delivery mechanisms used, the design of LTC services and benefits, the mitigation of LTC costs and other strategic aspects of the overall LTC system used. The actuary can play an effective role in assessing this process.

Sources of possible financing to compensate providers for LTC include one, or more likely a combination, of:

- Personal and family savings, providing for services or deductible/co-payments required from other programs, including:
  - Private personal wealth from such means as financial instruments, especially in economically developed countries, or of those with upper income in less economically developed countries.
  - Assistance from children, either in the form of financial support or a room in their homes, although the latter is becoming rarer in some societies.
  - Housing values, either through home equity or reverse mortgages. In many cases, the primary family or personal asset is the home, although such ownership tends to be concentrated in the hands of the middle or upper class of a country. Financial resources from this source can be obtained from its sale, borrowing from home equity or a reverse mortgage while still living in it, or renting it (e.g., while in independent living or nursing facility). In many situations, the elderly can be asset rich, but cash poor. In countries in which borrowing against housing value is popular, it is often restricted to those of higher incomes only.
  - Private or collective (group) LTC insurance. In some developed countries, individuals and groups have purchased insurance, either by means of mono-line insurance policies or in combination with annuity or life insurance.
  - Lower consumption of products or other services.
- The community, either through social/cooperative programs, charitable plans or volunteer services. These are in some cases subsidized by governmental authorities.
- Employer or other company-benefit plans. Aspects include:
  - Although less common now in many countries, income from defined benefit pension plans can be a major source of financing for ongoing costs.

- A defined contribution fund can potentially provide assistance in meeting an initial entry fee, if applicable, and ongoing costs.
- Programs that provide specifically for LTC are relatively rare, although there are some benefit programs in certain countries that provide for voluntary purchase of LTC insurance coverage.
- Employers may indirectly finance services as a result of a reduction in productivity or time at work of employees who also serve as caregivers, or as in Belgium provide informal care for the elderly as part of their paid care leave benefits – as a result, it has the highest percent (20.6%) in Europe of their population over age 50 who provide informal care.
- Government-sponsored programs, at a national, sub-national or local level, including those previously or concurrently provided through payroll or general taxation for:
  - Social security programs, either separately or combined with general healthcare benefits and
  - Social assistance (welfare or safety net), provided through means- or wealth-tested programs.
- A combination or coordination between disability and LTC programs, or between healthcare and LTC programs.
- Coordination and cooperation between public and private LTC and related programs. This is discussed in Chapter 10.

Public policy financial issues associated with LTC primarily arise from the growth in the population of those at older ages (mostly age 80+), the prevalence of and increasing demand for LTC, the lengthened periods of need resulting from the longer life expectancy of those with chronic conditions, and the ever-increasing cost of medical technology, personnel and treatments. Overuse of LTC benefits, whether provided at home, in a community or in a facility, can be triggered by generous benefits, less individual resistance to such care and easy access can also emerge as a concern. Most public plans are financed on a pay-as-you-go basis, while private plans for which the individuals provide financing, such as those through insurance, have to use some type of advanced funding and reserving, as the cost at very old ages become prohibitively expensive (either because of inadequate savings or the inflationary high cost for providing LTC) for most.

The sources of ex-ante (prefunding) financing for LTC include:

- Social insurance – often tied to payroll (e.g., Germany, Japan, the Netherlands, South Korea, Spain), although this can also be viewed as ex-post
- Private insurance – (e.g., United States, France, Germany)
- Private savings, through the equity in owned property, personal savings or retirement programs.

The sources of ex-post (pay-as-you-go) financing include:

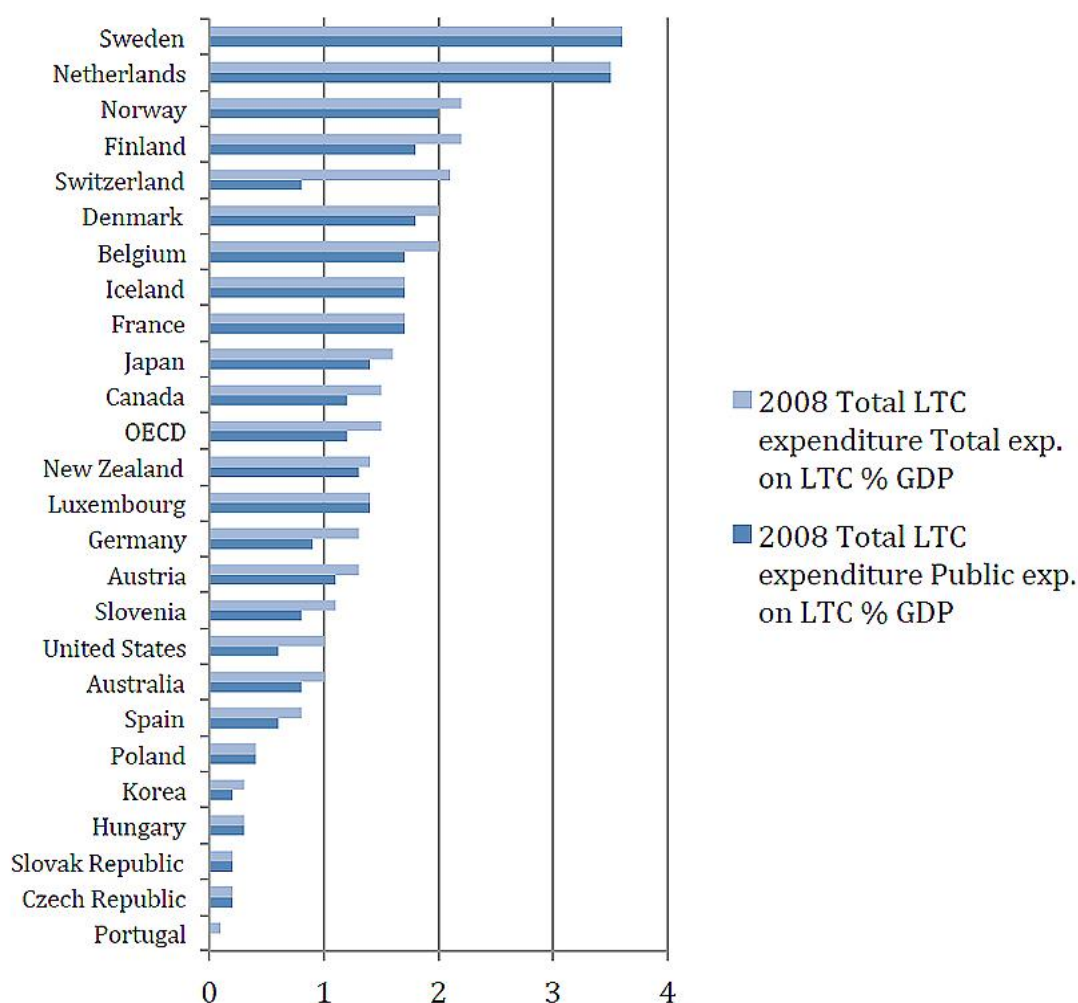
- Tax-based – general revenue or earmarked, with universal entitlement often subject to means-testing (e.g., Nordic countries)
- Means-tested cost-sharing – subject to wealth depletion (e.g., the United States and the U.K.)
- Self-based – including reverse mortgages
- Family and community.

If the cost of providing LTC was totally prefunded, many of the issues associated with financing would not exist. However, due to lack of sufficient prefunding, both the result of increasing longevity and other factors described earlier in this paper and the huge amounts that would be involved to prefund these costs for an entire population, future financing will represent a growing issue over time. A hybrid combination of multiple methods that is appropriate for a country or population segments within a country is more likely to succeed.

In any case, the cost of providing LTC will be quite large. In fact, the cost of LTC will likely displace spending on other items in both national government budgets and family budgets. This will involve prioritization of budgets and expenditures. The amount of GDP devoted to LTC in 2008 (undoubtedly larger by now and ready to explode in countries with a relatively large baby boom generation in the 2030s) compared with the GDP of selected countries is shown in Figure 14, as well as the corresponding part provided through public expenditure. According to OECD Health Statistics (2013), public LTC expenditure has increased between 2005 and 2011 in OECD countries at annual rate on home care of about 5% and 4% for institutional care.



**Figure 14 – LTC expenditures as a percent of GDP (total and public share)**



Source: OECD Health Data, 2011

The reluctance of many young people (under age 50) to forgo current income and consumption to save and insure, often in addition to retirement savings, for future LTC needs makes advance planning for LTC quite difficult. It is challenging enough to foster adequate retirement savings, let alone for a need that is not expected to arise, if at all, for a further fifteen or more years after retirement. This usually delays the initiation of private financing and thus shortens the duration for premium payments and savings period for private LTC insurance or self-funding, further complicating the development of comprehensive financial support of LTC.

According to Font et al. (2014), most countries recognize that trade-offs exist between ex-ante (pre-funding) financing the cost of LTC services and ex-post (pay-as-you-go financing) financing of care for those with insufficient funds to pay for all their LTC needs. They found that a country's income, interpreted as a proxy for financial affordability, is the main driver of public LTC expenditure, followed by population ageing and female labour force participation rates.

Planning for and forecasting these factors can make or break any LTC program. Actuaries have spent considerable thought in developing costing methods and identifying program design elements that may be able to control costs, provide for the most appropriate types and sites of care, and attract prospective insureds.

### **GOVERNMENT-SPONSORED LTC BENEFITS**

According to Scheil-Adlung (2015), most countries do not provide any long-term care program. Only 5.6% of the global population live in countries where the whole population is covered, while in some countries, LTC needs are partly covered by government benefits, either through specific LTC programs, as part of a comprehensive healthcare system or as part of social assistance/welfare. Chapter 7 of OECD (2011) provides a summary of the various approaches used around the globe that may or may not exist alongside private LTC insurance and family/community services. They are categorized based on whether the benefits are universal or means-tested, and from a single or multiple programs. Some examples include:

1. Part of a universal social *security* program, paid for by general tax revenues, e.g., Norway.
2. Part of a social *insurance* program, where recipients must have contributed over time, e.g., through payroll tax in Germany and Japan, and through general revenues in France.
3. Part of a means-tested *safety net*, e.g., Canada (certain provinces), U.S. (Medicaid), U.K.
4. Part of *healthcare* insurance, e.g., Belgium.
5. Part of *universal personal-care* benefits, e.g., Italy (cash), Australia (in kind).

Additional details on some of these programs are provided in chapter 8.

Each approach has its advantages and disadvantages. However, with the projected increase in the very old dependency ratios in many countries, there is growing concern regarding financing and thus the sustainability of these LTC benefits over the long-term, because of the number of people needing such care or the cost of the care, as most systems have been set up on a pay-as-you-go basis.

Countries with dedicated LTC programs can aim to cover a portion of the cost (often around 50%), while countries with universal healthcare programs are uneven in their coverage (from basic to comprehensive).

### **PRIVATE LTC BENEFITS: VARIETY OF APPROACHES**

In some countries, LTC can be financed by insurance products. These can be provided in mono-line form, or bundled with other insurance coverages. The form of mono-line coverage may result in premiums that are quite large, especially at ages 60 and older, when LTC insurance is most often purchased. This has resulted from the very steep increase in the rate of claim incidence at older ages, low lapse rates and low investment returns. Such products often provide benefits for stays in nursing homes and assisted living facilities, as well as for healthcare and formal caregivers for home care.

This coverage can be provided through individual policies or through a group (collective) sponsor, such as a union or employer-sponsored program. In some countries, such coverage is available to the individual only upon passing a set of underwriting criteria.

To be more attractive, some insurance products include multiple insurance coverages. For example, whole-of-life insurance and annuity products can include an acceleration of payments normally payable upon death or maturity; that is, the savings or maturity benefits are advanced to begin at an earlier date as LTC services are provided. Bundling these benefits together can be made in different ways, as supplementary benefits or in lieu of other benefits. By means of bundling, premiums can be less than if separate contracts are offered, which might provide incentive to purchase this coverage at younger ages.

In either approach, there is a steeply increasing claim incidence curve at older age for LTC use. Any level premium will be relatively high in the early policy years. So, if a person starts paying it, there will be an incentive to continue paying the premium for life. This can make such insurance coverage prohibitively expensive – such a product is unaffordable to many at all ages, especially for those with low or fixed income who could benefit most from such a product. Very low lapse rates on these plans (especially where there is low or no non-forfeiture benefits), high use of home and assisted living facilities, as well as mortality improvement and relatively high capital charges, have led to many companies leaving the U.S. LTC insurance market. This highlights that covering the LTC risk by any means is expensive, whether financed on a prefunded or pay-as-you-go basis.

In most cases, since LTC needs are so far in the future for those younger than, say, age 50, limited enthusiasm exists to purchase LTC insurance at these ages, especially relative to other more current resource demands; thus, even if available, such policies have been met with limited success. By the time LTC needs seem personally relevant, the premiums are already relatively large. In many countries, unaffordable premiums may lead to a conclusion that either a public or combination public-private program may prove more successful.

Another key issue can be the length of time that LTC insurance coverage provides benefits. Often it is limited to three, five or seven years, or to a total aggregate amount of benefits which, although it may have been appropriate when the policy was issued, may be insufficient when needed, possibly thirty years after issue, if adequate inflation protection is not provided. The increase in cost can be further exacerbated when the underlying costs, such as provider/caregiver charges, increase. This is of concern, especially if the insured is cognitively-impaired and not longevity-impaired. Further, some policies are inadvertently lapsed because of lack of sufficient attention by the elderly person, even though the need for LTC still exists and the patient has no other resources or caregivers.

Some private sector provisions may be designed to integrate benefits with or serve as an alternative to social protection or another public program. For example, if a public program provides six months of care after hospitalization, a private program could provide for benefits after that period (or vice versa).

There are many variations of benefits provided in these products. For example, some policies incorporate benefits that vary over time or linked to a relevant index (e.g., an increase in benefits based on cost of living or LTC costs). Some also provide benefits if a

family member provides caregiving, although this can lead to abuse. The following provides a general description of the more common benefits/approaches:

- **Periodic LTC benefits:** Once the LTC claim criteria have been met, benefits are provided on a daily, weekly or monthly basis on an annuity basis, either as a reimbursement for services rendered, as a fixed allowance (inflation-protected or not) or in kind (services). The maximum benefit period may be a certain period (including lifetime in some countries) or a maximum aggregate amount of benefits.
- **Stand-alone lump sum:** These may be part of total and permanent disability coverage or geared specifically to an elderly population. A lump sum amount could be provided to supplement or be instead of other benefits upon meeting the claim trigger, requiring the condition to be severe and permanent.
- **Acceleration of life insurance:** A portion of the life insurance benefit (possibly as high as 100%, although often discounted to reflect lost investment income by the insurer) is paid upon meeting the LTC claim criteria. These payments can be made for several months or years, or paid as a lump sum after the extent of dependency is determined to be severe and permanent. Options for extending benefits beyond the accelerated original life insurance benefit may also be available.
- **Acceleration of annuity payout:** The amount of accumulated funds under an annuity contract is paid out over a given period upon meeting the LTC claim eligibility criteria. Options for extending benefits beyond the accelerated period may also be available.
- **Additional annuity payments:** An additional payment is made to annuitants who are determined to be LTC-dependent.
- **Conversion/transition from disability income protection to LTC policy:** This may entail a conversion from one policy to another, or may simply make use of different claim triggers, as a function of LTC-dependency, once the insured has retired from work or has attained a specific age. In some cases, the two products are combined, with the LTC component overlapping with the disability coverage and providing an additional payment if the disability also qualifies under LTC during the individual's working years.

These types of insurance coverage may also include additional options, including benefit indexation adjustments and supplementary assistive services. Waiver of premium may also be included (premiums would otherwise be required to be paid while collecting benefits,

although in some cases a minimum level of service is required to avoid paying premiums to avoid abuse).

Most markets offer limited (e.g., no more than 5 years) premium rate guarantee for a level premium. The few that provide long-term guarantees (e.g., Japan, Taiwan) do so in large part because of regulatory requirements.

The use of a certain number of ADLs a person is unable to perform independently (sometimes one or two) and/or a cognitive impairment claim triggers are common in many markets. In some countries, there are more extensive evaluation criteria largely related to their public LTC classification, but with a similar aim of identifying severe physical or cognitive constraints. They may or may not be subject to periodic verification of continued LTC needs.

A few markets offer LTC under a group framework, either as true LTC group coverage during working (and possibly retirement) years, possibly as optional/supplemental coverage with portability options after termination or retirement, or using group principles to offer individual policies to multi-life units with reduced upfront underwriting.

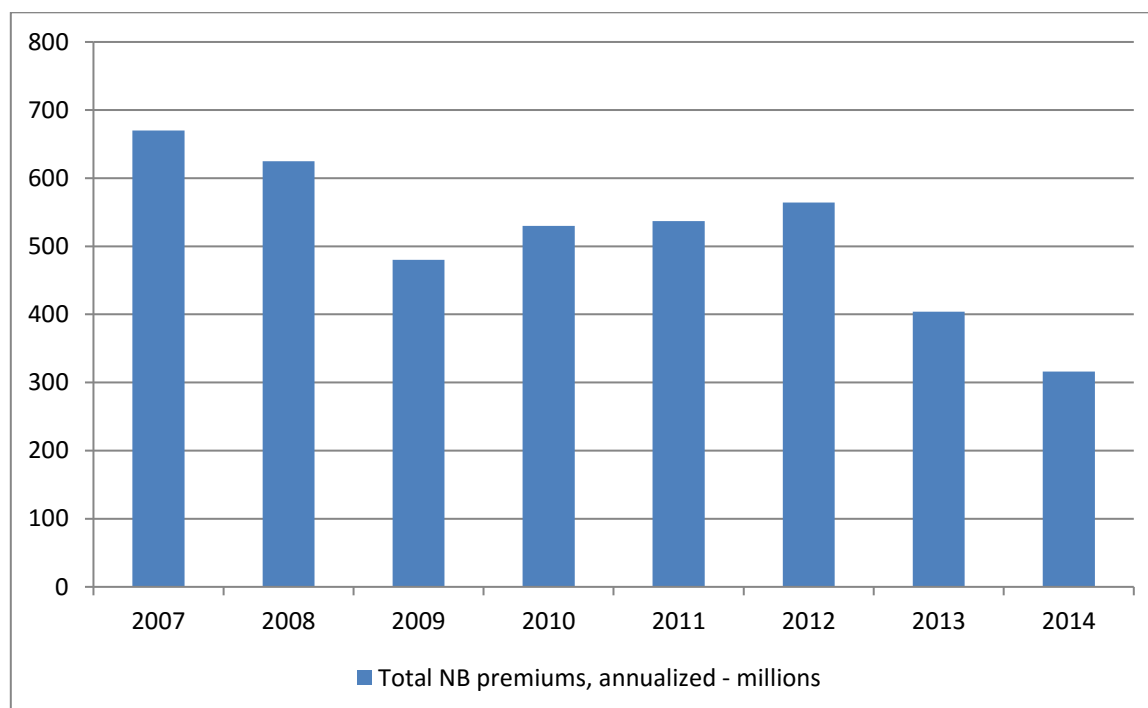
CCRCs, because of their front-end financing requirements for lifetime residence, basically provide insurance against longevity, if the CCRC itself remains financially sound.

## CHAPTER 8: NATIONAL CASE STUDIES

In this chapter, LTC approaches taken in several countries are discussed. The countries have been selected either because of their size, history, or approach to LTC insurance products or LTC public programs. Note that the availability of private sector sales figures shown differs by country. Countries are presented in decreasing order of population size.

**UNITED STATES** (2015 population: total – 321.4 million; 5.0% aged 80 and older)

**Figure 15 - Market size – new business premiums**



Source: BrokerWorld Annual Long Term Care Survey Data, and LIMRA 2014 Annual LTC Review

Inforce premiums at the end of 2014 were about US\$10 billion. Figure 15 shows new business (NB) premium in US\$.

The LTC insurance market in the United States has encountered several challenging issues over the last few years that have affected new business volumes.

### **Social Benefits**

The United States has two public sector programs that offer LTC benefits: Medicare and Medicaid.

*Medicare* is a national social insurance program focused on providing health benefits to retirees and disabled individuals. It is mostly financed by a payroll tax and offers limited LTC benefits, including:

- Skilled nursing facility, 100 days of benefits: 100% of costs in the first 20 days; cost minus a copayment for days 21 to 100; and

- Limited coverage for home care, mainly skilled care.

Eligibility requires a hospital stay of at least three days in the last thirty days.

*Medicaid* is a joint federal/state program run at the state level with a large degree of guidance from the national government. Its focus is on providing health benefits to those with limited income/assets. Benefits are means-tested and are financed by state and federal governments. LTC benefits offered as part of Medicaid include stays at nursing facilities (pays full cost for “Medicaid” beds) and home care, which vary by state. Most, but not all, states also pay for stays at certain types of assisted living facilities. It may require a draw-down of personal assets to qualify. It provides for a significant amount of nursing home care in the country. Depending upon the state, Medicaid is under severe financial pressure.

### ***History and product design***

In the United States, limited social benefits and the absence of a national universal healthcare system offered space for private LTC insurance to develop, introduced in the mid-1970s. Early LTC insurance products offered periodic benefit payments for nursing homes only and followed a strict benefit trigger that required a minimum hospital stay (e.g., 3 days) to commence covered benefits, as well as a determination of “medical necessity” by a physician.

In the 1980s, home care benefits and indexation of benefits (allowing benefits to keep up with inflation before and after initial claim) were introduced, along with loosening of benefit triggers, thus eliminating the need for prior hospital stay.

During the 1990s, products started to take their current form with more comprehensive periodic benefits addressing both home and facility care and using ADLs and cognitive impairment as claim initiation triggers. That decade also saw the introduction of tax-qualified LTC plans offering a tax deduction for premiums of LTC policies that met the National Association of Insurance Commissioners (NAIC) design for benefits and definitions<sup>8</sup>. Most products sold to date are stand-alone LTC coverage that follows the NAIC design.

More recently, following a change to the tax treatment of certain insurance policies<sup>9</sup>, so-called “combination” or “combo” products were introduced where LTC benefits are added to a life insurance or annuity product. Although there are many variations, the basic design usually entails the life (face amount/sum assured) or annuity (accumulated funds) benefit being paid out tax-free over a period of months when the insured meets the LTC claim triggers. An insured LTC rider may provide an additional 2, 4 or 6 years of benefits. This concept has helped restart interest in LTC insurance because of a reduced resistance to a LTC sale (where the focus is on the life or annuity product), reduced cost of the LTC insurance portion (given the longer waiting/elimination period) and more limited underwriting (often sold to younger applicants when compared to traditional LTC sales). This approach does, however, increase the importance of the assumptions used to determine the longevity of

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<sup>8</sup> MDL-640/641 [http://www.naic.org/prod\\_serv\\_model\\_laws.htm](http://www.naic.org/prod_serv_model_laws.htm)

<sup>9</sup> <http://www.irs.gov/pub/irs-drop/n-11-68.pdf>

claims. As LTC benefits stop at death, determining how many people will be alive after the long elimination period (i.e., the life or annuity payment period) and how future medical improvements will impact the incidence and mortality of those determined to be LTC-dependent, can be challenging.

LTC is offered today as individual coverage, under group policies and using a modified issue approach (individual contracts sold using group principles). There has been considerable turmoil in the part of the industry that provides LTC policies – as a result of such factors as lower investment return, lower than expected voluntary lapses and mortality, relatively high capital charges and longer than expected length of stays, many insurers have exited the market, while many of the remaining companies have implemented large premium increases.

In early generations of LTC products (in the 1980s), assisted living facilities were rare. To most purchasers of LTC insurance at that time, entering a facility upon disability generally meant confinement to a nursing home. Disability, therefore, was dreaded and satisfied the criteria as an insurable event.

However, the availability of relatively desirable assisted living facilities, retirement communities, and similar institutions has changed the way Americans think about residences in their retirement. To those expecting a modest amount of care in their retirement years, these communities represent an opportunity to hand the daily responsibilities of owning and maintaining a home to others, while preserving autonomy and independence not provided by nursing homes. This has removed a key disincentive that previously existed for filing claims under LTC policies.

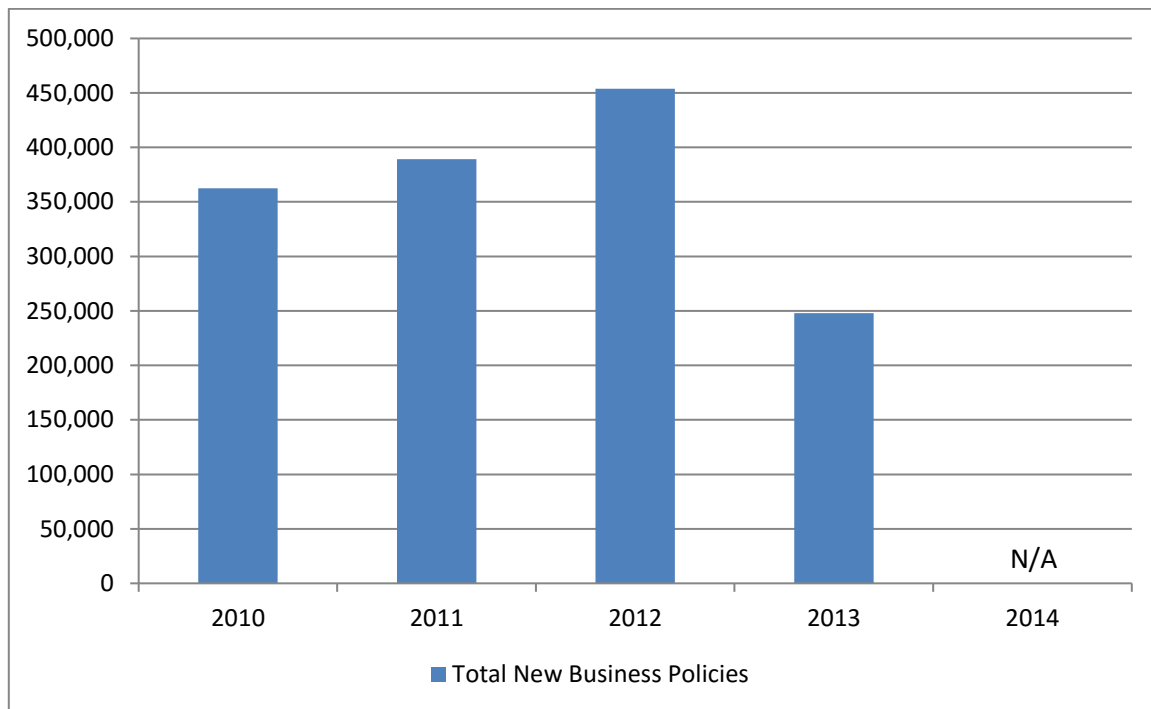
This trend has resulted in a shift in the mix of facilities for the elderly; from those focused on medical needs and skilled nursing support to newer senior communities with superior non-medical services and amenities. Residential choices, especially for middle and higher wealth individuals and couples, provide a range of lifestyles – if insurance can be tapped to provide for this, all the better for those involved.

Nevertheless, according to Bajtelsmit and Rappaport (2014), a major long-term event can devastate retirement security for most households. For households below the median who need an extended stay in a nursing home, Medicaid is likely the only viable means of financing. Advanced planning for LTC risk is critical for low- to middle-income households. For other than the wealthiest households, the cost at the retirement date of any LTC financing strategy may be prohibitive and deplete household emergency funds. For those with greater wealth and income, paying for LTC costs as they are incurred may be a workable option. LTC insurance is particularly useful for those in the middle-income brackets. It enables them to buy care in the marketplace when eligible for benefits, and may enable more options for care. However, for many households, premium costs may be prohibitive and may adversely affect achievement of other retirement planning objectives.



**JAPAN** (population: 127.0 million; 7.8% aged 80 and older)

**Figure 16 - Market size – new business policies**



*Source: Statistics of Life Insurance Business in Japan*

As at the end of 2013, the market had 3 million policies in force, excluding statutory coverage.

### **Social Benefits**

Looking at a rapidly aging population and a low birth rate, Japan adopted a state-based mandatory LTC system (kaigo hoken) in 2000 for anyone age 40 and above (split into 40-64 and 65+ age categories to provide for contributions and care). The program is a pay-as-you-go system, run by municipalities that act as insurers. The cost is born by premiums from insureds (45%) and by general tax revenue (45%, split between central, prefecture and municipality levels of governments) and co-pays and other fees (10%). The premiums are revised every three years and are means-tested.

LTC is provided regardless of income or assets (i.e., not means-tested) and requires a 10% out-of-pocket co-payment up to a monthly cap, which varies by income level. The claim evaluation is conducted using a 74-item questionnaire focusing on ADLs and IADLs, after which claimants are categorized into one of seven levels of dependency; the decision (certification) is provided after 30 days. Five of the seven levels are viewed as requiring increasing support to perform ADLs, with the other two levels providing preventive benefits for people needing help with IADLs.

The increase in the number of elderly in Japan has led to a corresponding increase in the number of nursing homes, from 2,260 in 1990 to 4,463 in 2000 and 6,254 in 2011.

Revisions made in 2005 and 2009 emphasize encouragement of prevention measures, especially for those at the less severe disability levels, whose benefits were restricted with a focus on nutrition and exercise programs provided through community day centers and group homes for dementia patients. Emphasis is placed on care provided at home.

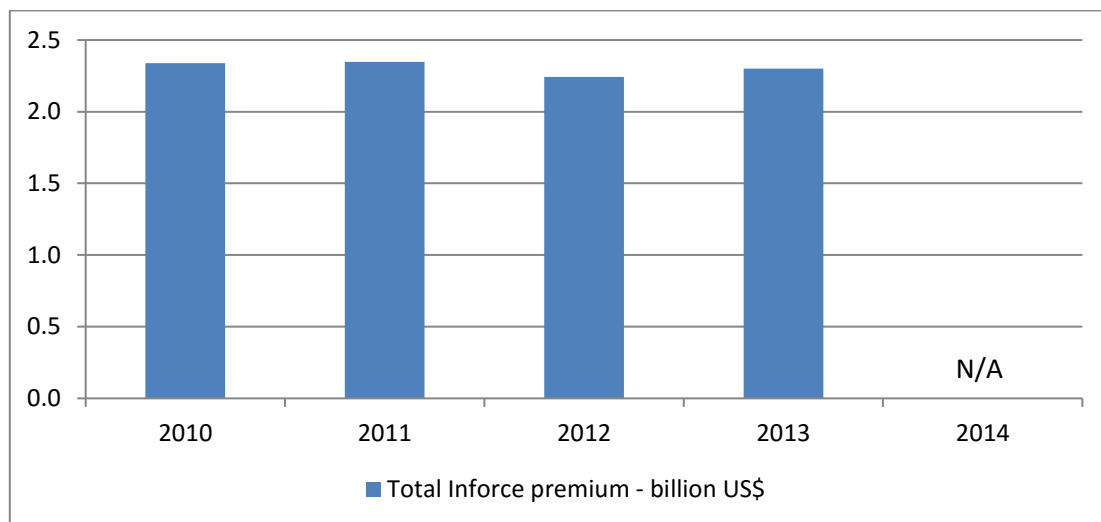
### **History and private sector product design**

The private LTC insurance market offers stand-alone policies on an indemnity basis (fixed periodic payments), as well as accelerated products (life insurance and annuity coverages), all with guaranteed premium rates. The market is small, in part a result of the existence of the public system thought by many to offer sufficient protection, and partly because premium rates are considered to be very high. Rate filings are required, as is the use of Japanese data in calculating premium rates.

Claim triggers used by private insurance products are not regulated and often start from the result of a state evaluation, which is viewed as being very robust. Accelerated lump sum payments on life insurance products occur 180 days after obtaining the state evaluation (which takes 30 days). Insurance products start paying when the need exceeds a certain level on the 7-level scale of dependency used by the state program. This level was defined as LTC3+; however, newer products typically use LTC2+. They may also offer partial benefits to cover the co-payment for those below the claim trigger of the private insurance policy, if they still meet level 1 of the state LTC classification system.

**GERMANY** (2015 population: 81.4 million; 5.7% aged 80 and older)

**Figure 17 - Market size – in force premiums**



Source: GDV (the association of German insurers) "Statistical Yearbook of German Insurance 2014"; (1 EUR = 1.1156 US\$)

Figure 17 shows the level of premiums collected on compulsory LTC insurance.

### **Social benefits**

It is difficult to categorize the LTC program in Germany as part of social benefits or private insurance. It has many elements of private insurance, but is unique in the way it is integrated with the public health program.

### History and product design

LTC insurance was introduced in Germany by life insurance companies in the mid-1980s. Early products consisted of riders to annuity products, which increased or accelerated the underlying annuity benefit. The claim definition followed ADL principles. The industry was not especially successful in selling these products.

In 1995, the German government introduced a compulsory LTC program. Recognizing early on the future impact of an aging population on the old age dependency ratio, it forced everyone (from birth) to be covered, either through a public or well-regulated private insurance program.

The mandatory program covers part of the total cost (about half). It provides three levels of benefits based upon an evaluation that assesses a person's need for care based on a set of activities the person is unable to perform and the amount of care (in hours) needed. The result determines a level of dependency that ranges from light to full (level I – those in need of care at least once a day for bodily care, feeding and mobility; level II – those whose dependence is heavier and need help at least three times a day for basic care; level III – those whose dependence is absolute and permanent). Benefits can be paid as an allowance when family members handle the care (benefits reduced to 50%), in kind (outpatient services), or via a nursing home (with care delivered by the state). About two-thirds receive cash payments, with the remainder paid in kind (service). There is a lifetime coverage period and premium rates are adjustable.

Benefits purchased under a private LTC policy must at least equal those available under the statutory (public) system, or they can be offered as a top-up to the mandatory program.

One additional layer of complexity arises when a German purchases private cover is whether the LTC insurance is obtained through a health or life insurer:

- Coverage from a *health insurer* follows the same claim triggers and levels as the mandatory state program (i.e., three levels of care). Additional benefits beyond the requirements of the state program also are based on the same triggers. Health insurers are allowed to offer products that reimburse expenses, something life insurers do not provide. Premium rates are adjustable and the methodology used follows very specific rules set by regulators. Since 1995, premium rates have decreased, recognizing that the initial assumptions used were likely conservative.
- Most *life insurers* provide a stand-alone LTC product with a lifelong annuity as the benefit. Several life insurers offer riders to annuities or disability policies that either increase or accelerate the annuity payments. The benefit triggers used in 2016 are based on the three levels under the mandatory program, the use of ADLs and a separate dementia trigger. Life insurers maintain the right to perform their own claims assessment using the definition in the original policy. Only life insurers use ADLs as an additional benefit trigger. They were the first to introduce a separate dementia trigger, which some health insurers have recently begun to use, although associated with smaller benefits. Premium rates are guaranteed with a profit-sharing mechanism to provide additional protection for the insurer.

Changes were made in the First Act to Strengthen Long-term Care that came into effect on 1 January 2015 and the Second Act to Strengthen Long-term Care, effective on 1 January 2017. These changes include improvements to statutory benefits (e.g., treating dementia in a manner consistent with other conditions), a transition to a new 5-class LTC definition, increased support for use of home improvements to facilitate home care, inclusion of certain caregivers into the unemployment insurance and pension programs, and co-payments that do not increase with the intensity of care.

**FRANCE** (2015 population: 66.8 million; 6.1% aged 80 and older)

### ***Social benefits***

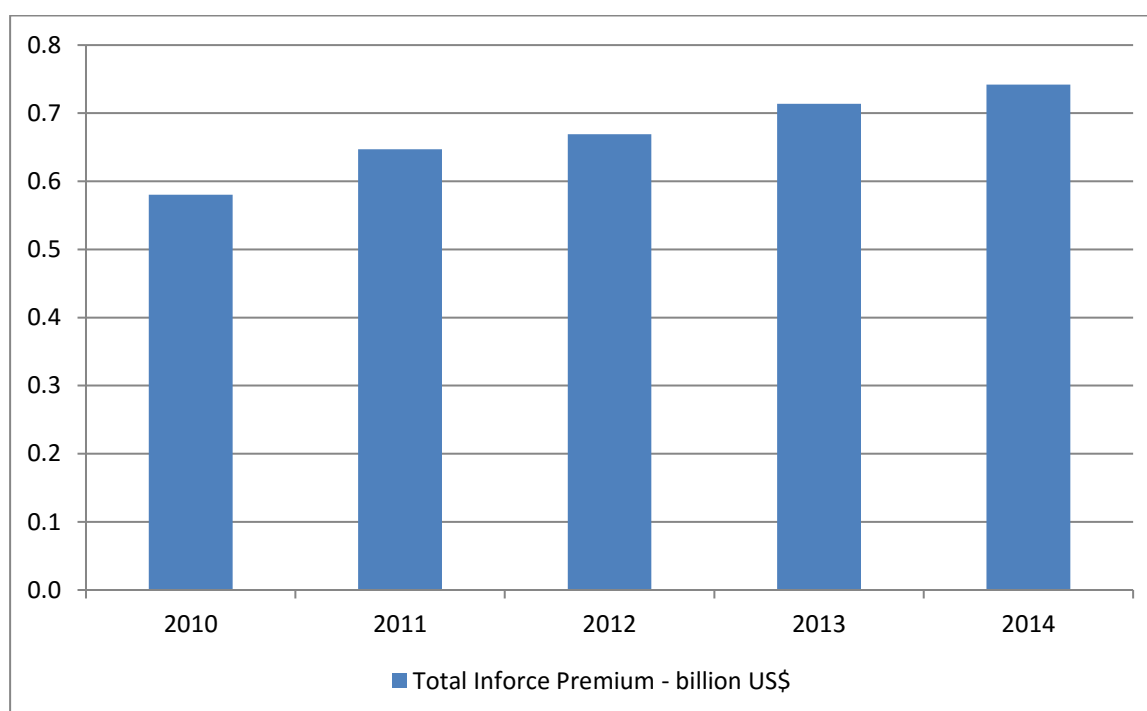
France has had a social benefit program for LTC since 1997. It has two parts, referred to as APA (Autonomy Personalized Allocation, created in 2002) and as ASH (Social Allocation for Accommodation) and are managed by local authorities (“départements”).

APA pays benefits based upon the actual expenses incurred for an eligible person of at least age 60. The ceiling for reimbursement is adjusted according to the level of income of the LTC beneficiary. These allowances do not cover all costs, but offer some help. The maximum benefit ranges from 550€/month (lowest level of dependency or GIR 4) to 1300€/month (highest level of dependency or GIR 1) and depends upon the situation of the LTC beneficiary, i.e., whether that person is living at home or in a nursing home. The assessment (GIR level) is made by medical teams using a common tool referred to as AGGIR, which is based on responses to 17 questions covering functional and cognitive capabilities, and provides a score between 1 (total dependency) and 6 (autonomy), with benefits offered only to those more severely affected (GIR level 1 to 4). APA benefits are paid by the local and the national government.

Although ASH is not limited to LTC, it is primarily used for that purpose. Its aim is to provide assistance for residence in an establishment to those who are 65 or older with limited financial resources. It has no ADL requirement. Benefits from ASH are entirely paid by the local government, but are recoverable to the extent that the beneficiary has resources and there is an estate upon that person's death.

APA and ASH covered 1.25 million people in 2015 with a cost of €5.6 billion. Their benefits are provided for care at home for 54% and in a nursing home for 46% of the beneficiaries.

**Figure 18 - Market size – in force premiums**



Source: Association Française de l'Assurance Avril 2015; (1 EUR = 1.1156 US\$)

New business volume in 2014 was US\$32 million, with total inforce premiums, as shown in Figure 18, at the end of 2014 of about US\$765 million.

### **History and private sector product design**

LTC insurance was introduced in France in 1985 with products sold on an individual basis with issue ages up to 70, covering total dependence measured by ADL definitions (an inability to perform three out of four ADLs). Lifetime annuities were offered.

A second generation of products began in the late 1990s. At that time, partial LTC benefits were offered, new claim triggers and definitions were introduced (ADL and GIR definitions), lump sum benefits became available in addition to annuities; the maximum issue age was increased to age 75. The market also saw the introduction of group LTC policies and the development of assistance services. The number of those covered under group policies is now greater than those under individual policies, although they are of much smaller size, sold mandatorily along with employer and union sponsored retirement plans.

Since 2000, the focus has been on continuing to develop assistance services. The maximum issue age increased to age 80 in a few cases.

With products from various generations, inforce books of policies have a mix of claim triggers and definitions, which renders the claim adjudication process more complicated, and affects the market's ability to conduct effective actuarial claims experience studies.

Sales to individuals (1.6 million people covered in 2015) are stand-alone products. These products often use one or more levels of the AGGIR scale, ADL definitions and a mini-mental state examination (MMSE, a test that measures the level of cognitive impairment). In 2013,

the French Federation of Insurers proposed minimum product standards to be recognized as LTC insurance (labeled GAD Assurance Dépendance), which suggests that a severe LTC patient should be defined as a loss of 4 out of 5 ADLs, or 3 out of 5 ADLs and a MMSE score below 16, or 2 out of 5 ADLs and MMSE score below 11. Insurers are allowed to offer more generous versions of the product. To align with the use of simplified underwriting, products would delay (exclude) coverage of neuro-degenerative conditions for the first 3 years; some could also exclude illnesses for the first year, leaving accidents as the only qualifying event during that period, a usual feature in French policies. There is no underwriting for applicants under 50, unless disabled. Reduced paid up coverage is provided after a minimum number of years of being inforce.

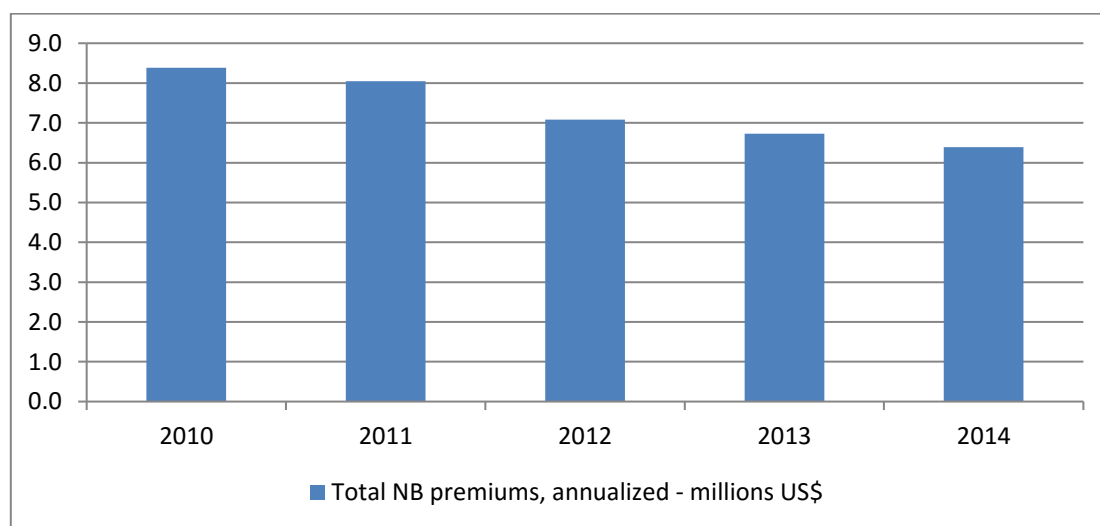
Group LTC benefits (1.8 million people covered in 2015) are much smaller than individual benefits (about 100 € per month), as they are primarily a supplement to some health or medical expense benefits, whereas the average individual benefit is about 600€ per month for full dependence care. The average age of the group insured is much lower than the one for individual insured. Some large mutual insurers have included such small LTC benefits as a mandatory or opt-out benefit, which explains the large number of group LTC insureds.

There are limited numbers of LTC coverage in addition to group retirement plans, although not as widespread (e.g., double pension), in part because they do not provide a clear vision as to what LTC benefits would be, nor how they relate to real LTC needs. This is, however, an example of an attempt to broaden coverage and coordinate such benefits with retirement income plans.

Other product designs have been introduced with limited success, including combination products with life, annuity and health insurance products.

**CANADA** (2015 population: 35.9 million; 4.2% aged 80 and older)

**Figure 18 - Market size – new business premiums**



Source: LIMRA - Canadian Individual LTC Insurance Annual Review 2012; (1 C\$ = 0.7898 US\$)

Inforce premiums as at the end of 2014 were about US\$90 million. Figure 18 shows new business (NB) premium in US\$.

### ***Social benefits***

Nursing home or facility care is managed at the provincial level with each province having its own set of rules regarding a state subsidy (e.g., first or second payer for insurance; income and/or asset tests). Home care is also offered, with availability varying by region within each province based on the applicable population. These services/subsidies are limited and waiting lists are long. Recently Canadian governments have been starting to pay greater attention to the issue of LTC. An example is the joint federal-provincial-territorial discussions on providing home care, the need for affordable housing options for seniors and reducing social isolation.

### ***History and private sector product design***

LTC insurance was introduced in Canada in the late 1990s with a design very close to what was then available in the United States. This was driven in large part by American companies with Canadian operations looking to enter the market with the same product developed in the United States. Interest was high initially with as many as ten companies introducing LTC products in a short period. The interest started to fade around 2005, in large part because:

- Premium rates that were adjustable after 5 years, in a market where premium guarantees are available on other products (life, disability, critical illness);
- Products are often considered to be expensive by consumers, especially for a risk considered to provide benefits so far in the future;
- Competition from Critical Illness (CI) insurance that offers LOIE (Loss of Independent Existence) based on a “permanent” version of the same claim triggers as LTC insurance. CI also provides a lump sum payment, a possible earlier payment (based on other conditions), the security of premium rate guarantees and, in some cases, a return of premium benefit; and
- The complexity of the product, needing explanation of the triggers and the underwriting process, which makes undergoing the sales process unappealing.

Since then, new sales have declined at a rate of about 5% per year.

### ***REPUBLIC OF BENIN*** (2015 population: 10.9 million; 0.2% aged 80 and older)

The experience of Benin is representative of the current situation in Francophone and in certain other areas in Africa (of course, Africa, like other continents, contains a wide range of demographic and cultural patterns, with unique issues that will be dealt on a local, national and regional level in a variety of ways). At first glance at the population projection of those over age 80 shown in Table 1, Benin does not appear to expect an LTC problem for a very long time. However, it is an example where, even though a relatively young society, some of the same social pressures will lead to similar LTC needs as those with on average an older population.

Benin has no specific government or private insurance provisions for LTC despite emerging needs. Because of culture and history, people think that LTC will not be needed until the far distant future. In contrast, what is important for them is to address today's or short-term problems. In addition, it is assumed that it is the government's responsibility to organize and provide them with LTC, so future LTC beneficiaries are not aware of the necessity to prepare

or save for the long-term. Despite this, many authorities have not conducted an awareness campaign or a savings program to provide for LTC. There is limited data on the number of the elderly suffering from chronic physical or mental condition; thus, it has remained unstudied by most African actuaries.

As indicated earlier, because of relatively high fertility rates (almost 5 children per woman), the LTC issue is not currently as pressing as certain other social issues. Nevertheless, as its population ages, this will eventually become a problem because of the demographics of the rest of the family.

In addition to the causes of LTC needs indicated in Chapter 3 (e.g., cognitive, diabetes, injury, cancer, stroke), the following contributing causes exist in many parts of Africa: permanent invalidity as a result of working injury or disease, leprosy, blindness as a result of birth defects, river blindness (that affects most farmers over age 40 who work near a river), polio, AIDS and other adverse health conditions.

For these risks, less than 10 percent of the active population in some African countries are covered by sustainable LTC provided either by social security or private insurance. Health schemes are often employer-based. In the absence of a universal or national health social insurance, there is no health protection when the worker retires. In some countries, health coverage for civil service pensioners is provided, although drugs are excluded and coverage does not target LTC.

Private LTC insurance is not available, as this coverage appears too risky to insurers. In any case the premium would be too high for pensioners, whose income is modest at best.

In many African countries, there is no social protection provision for most workers in the informal/non-structured sector, in which more than 70% of the active population is involved. Those of old age must rely upon public health services that do not usually address LTC needs. The existing infrastructure is usually based in towns far from the rural area, where the needs are most urgent. There is, despite efforts of medical staff, insufficient infrastructure and qualified personnel, and poor or uncertain service.

Despite the anguish, pain and cost, the African family generally prefers to keep their parents who experience reduced physical or mental capacity at home. An unpaid member of the family (spouse or daughter, the latter of whom often has to abandon school or an apprenticeship) is the caregiver, although she is not trained and does not work with or for someone trained in geriatric care.

While this is a cultural practice, it is increasingly under strain as those in the younger population increasingly move away to obtain jobs or education. In addition, most seniors would not be able to meet the cost of external social services or residences such as assisted living facilities or nursing homes, which are, in any case, incompatible with African culture. Other non-family informal caregivers are sometimes used, e.g., those from the local community, national or international NGOs, or religious support staff, although these are often limited to providing in-kind benefits, mainly food or counseling.

Neither the central government nor local authorities are aware of the number of people in need of LTC. In general, no action plan currently exists at the central or local levels. As no proactive action had been taken to provide short- or long-term financing, support is limited



to rare or sporadic visits for counseling. Nothing is done to assist the family and supervise the informal caregiver by skilled or licensed personnel (medical or non-medical).

There is no available training to improve the quality of the geriatric caregiver. Nor is there a great deal of understanding of private insurance. In fact, there is an attitude that if benefits aren't paid, the premiums should be refunded. Thus, there is a general unwillingness to pay premiums for a private insurance policy or even to rely on professional care.

In the formal sector, high level of unemployment is a greater concern than LTC. This in turn, negatively impacts the overall level of social transfers and living standards for all. Workers in the informal sector generally have low income or their investment in real estate is generally insufficient to provide them a decent income.

Many retirees who are not part of small privileged groups relocate to small towns or villages and many of these live below the national poverty line. Although such relocation can reduce spending on healthcare, transportation and housing, it also results in limited access to health institutions, and people not using the services of qualified medical providers. But in some cases, especially in rural or small village areas they are simply left alone to fend for themselves.

The situation of Benin is representative of many parts of Africa. For more discussion of the status of LTC in Africa, the reader can refer to Scheil-Adlung (2015).

#### **ISRAEL** (2015 population: 8.4 million; 3.1% aged 80 and older)

Israel has a complex healthcare system. In 1995, it adopted a National Health program that offers cradle-to-grave coverage through a National Health Basket to all Israeli residents, including acute care and hospitalization, but does not provide for LTC. The program is financed by a salary-based tax of 9.5% (up to a certain limit), of which between 0.14 percent and 0.23 percent of salary is for the Israeli National Insurance Institute (INII)'s LTC support (discussed below). The healthcare program is managed by the four Israeli sick funds (similar to Health Maintenance Organizations (HMOs)). The tax provides about 53% of the Basket's costs and about 40% are covered by the state, with the balance paid by patients' participatory payments.

The HMOs provide a voluntary collective Supplementary Health Service that supplements the National Health Basket with additional services, medications, and election of surgeons and surgery hospitals. About 75% of the population is covered by these Supplementary Services. The National Health Basket Act, as well as the services and financing of the HMOs and of the public hospitals (about half the hospitals), are regulated by the Ministry of Health.

At the same time, about 15 insurance companies provide individual and collective group health insurance, in traditional coverage areas such as medical expenses, dental, dreaded diseases, travel, and foreign workers. These companies also offer individual (to about 0.5 million insureds) and collective group (to about 0.6 million insureds) LTC coverage. In addition, they provide collective voluntary LTC coverage to 4 million members (nearly 50% of the membership) of the HMOs. Consequently, about 5.25 million Israelis, or about 62% of the population, have LTC coverage. However, since the insurance companies are regulated by the Commissioner of Insurance, complex regulatory issues affect all the Israeli healthcare and LTC systems.

As a further complication, the INII, the Israeli social insurer, provides a means-based LTC pension to low-income old Israeli citizens. In 2013, there were about 160,000 beneficiaries, or about 2% of the population, of which about 70% were females, and 45% were aged 75+. The services covered include a home aide for several hours per week, day care support, and some additional services.

This complexity is illustrated by Figure 19, which shows some of the LTC provisions of the National Health, Complex Nursing Support, and the INII support.

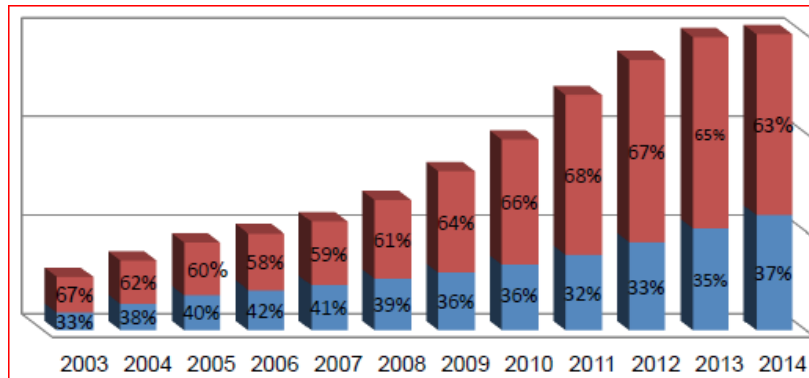
**Figure 19 – LTC structure in Israel**

National Health Act (4 HMOs)	Health Insurance	Private LTC Insurance ~ 7% / population
	Supplementary Health Services	Collective LTC ~ 53% / population
	National Health Basket Geriatric and Complex Nursing Support	
Nursing Act (INII = Israeli SSA)	Retirement age Israeli citizen Community living Income test / ADLs 9 - 16 - 18 weekly support hours	Light Nursing for Community Retirees ~ 15% / aged
Ministry of Health	Geriatric hospital Income test & copay 3 - 24 months Cost ~12-15K NIS / subsidy ~3K NIS	Supports Nursing Hospitalization ~ 3% / aged

Source: the Commissioner of Insurance (Israel)

The collective LTC policies that are owned and managed by the HMOs, as well as most other collective LTC policies, are usually renewable every three or five years, with renewal terms and conditions subject to approval by the Commissioner of Insurance. Being collective, these insurance plans have a high payout rate, low administrative costs, and cross-subsidization across ages. Figure 20 demonstrates the distribution of LTC premiums in 2003-2014 between collective and individual coverages.

**Figure 20 – Distribution of LTC premiums, divided between collective (red) and individual (blue) coverage (NISbillions) (Israel)**



*Source: Compiled by the Commissioner of Insurance (Israel), based on annual reports of the insurance companies, and presented in Chapter 3 of the Annual 2014 report of the Commissioner of Insurance, June 2015.*

LTC coverage can be transferred between sickness funds and those leaving the collective HMO coverage can continue with individual LTC coverage with the same insurer without underwriting. About 7 percent of Israelis are covered by the INIL and its means-based program, though not all of them are currently entitled to benefit payments. Other Israelis have different types of individual LTC insurance policies that require underwriting, include limitations, and are costlier. In certain segments of the population, including Arabs, certain religious groups, and kibbutzim (commune-style villages), LTC is more likely to be provided by families and the community.

Eligibility for LTC support is ADL-based. Those with deficiencies of four or more ADLs are eligible for full support, while those with three (and in certain cases two) ADLs qualify for partial support. Selected physicians and nurses make the initial qualification determination, which is followed up by periodic re-evaluations. Benefits are paid from the collective sick-fund policies and private policies for a limited period, usually three or five years, although in some cases the period can be doubled. Benefits cover the cost of a nursing facility or a full-time caretaker, and can be used to support informal caregivers. Hospitalization and medical needs of LTC patients are covered by the HMOs under the National Health program.

When the HMOs' collective policies were first issued in 1994 for a three-year renewal period, financing was on a pay-as-you-go basis. The initial set of claimants included many who had waited for years for LTC support, and thus had a short life expectancy. Within a few years, the life expectancy and the costs increased by more than half. Later, in the early 2000s, the Commissioner of Insurance required that each insured group (of renewal policies) will be self-balanced for a hundred years, resulting in a need for reserves, and special rules for their treatment and management for those who transfer between groups or leave a collective group. As a result, the aging of the group members, as well the demographic and medical considerations noted in earlier chapters, have led to premium increases at each renewal.

Several years ago, individuals in a group for which coverage started many years ago all reached advanced age; the coverage was then cancelled by the insurer, resulting in a public

uproar. As a result, the Commissioner of Insurance proposed major changes in the LTC market that affects all except those insured by the INII. In its current form, it requires the use of a common LTC policy with accumulation of reserves.

To curb large increases in premiums at older ages, the Commissioner requires that LTC premium becomes fixed at age 67 (the retirement age – or at a similar set age like 65 or 70) so as not to overburden retirees, and will continue at this fixed level for life (except for a linkage of the premiums to the CPI). This approach leads to higher premiums at younger ages. A byproduct of this arrangement is the paid LTC policy – once a certain level of premium is paid or reserve accumulated, premium payments cease, with the coverage remaining in effect with lower benefits rather than being paid out.

At the time this paper was written, the Ministry of Health is lobbying to add LTC to the National Health Insurance Act and finance the program through a salary-based tax of 0.5 percent.

**SWITZERLAND** (2015 population: 8.3 million; 5.0% aged 80 and older)

Provision of LTC in Switzerland is relatively fragmented, with financing coming from a variety of sources. There is neither LTC insurance nor a centralized tax financed provision mechanism. The costs are covered by a combination of the compulsory medical insurance system (LaMal), the disability insurance system (AI), individuals' out of pocket expenses and Cantons. Nevertheless, the overall coverage is generally good. The ultimate responsibility for LTC provision is at Cantonal level (there are 20 Cantons and 6 Half Cantons in Switzerland).

### ***Delivery***

Provision of care occurs in specialist nursing homes "EMS" (some 80% of cases), the overwhelming majority of which are non-profit establishments (although private homes do exist), or at home (20% of cases). 99% of the population are within 15 minutes' drive from a nursing home, which makes this option theoretically available to all. In recent years, there has been increased focus on palliative care with a national strategy in effect since 2010. This contrasts with the situation for LTC itself, despite (or perhaps because of) the fragmented local level of provision – there is no national strategy or coordination; therefore, quality can vary. The Cantons are responsible for quality control, but the health insurers often apply quality control mechanisms through an analysis of cost efficiency and effectiveness.

### ***Financing***

The average monthly cost in a Swiss home is CHF8,700 (€8000). While it is estimated that 80% of these costs are staff related with relatively low direct medical costs, the proportion of total costs considered as medically related (i.e., including relevant staff costs) amounts to around 43%. One fourth of all health costs in Switzerland come from personnel costs in medical homes (with about 87,000 staff).

Costs can be split into three categories (Figure 21), which determines who pays for what. The first two elements (accommodation related and assistance) are paid for by the individual, with medical costs (43% of the total) being shared.

**Figure 21: Types of costs and financing responsibilities - Switzerland**

Board and Lodging	Assistance	Medical services
<ul style="list-style-type: none"> <li>• Paid by the individual</li> <li>• Financial assistance (AVS, AI, Cantons) depending on resources</li> </ul>	<ul style="list-style-type: none"> <li>• Paid by the individual</li> <li>• Financial assistance (AVS, AI, Cantons) depending on resources</li> </ul>	<ul style="list-style-type: none"> <li>• Paid by the medical insurer with participation by individual (excess and co-payment)</li> </ul>

In 2012, total costs were shared between health insurers (39%), Cantons and communes (16%), individuals/households (18%) and supplementary invalidity and retirement benefits and other support (27%). Individuals therefore must pay a substantial proportion of total costs on their own. If the individual does not have the resources to pay these expenses (it is estimated that 80% of people fall into this category), he or she can apply for complementary *Assurance Vieillesse et Survivants* (AVS, the basic pension system), AI benefits or financial help from the Canton, which varies in level and conditions and is means-tested. Financing for care at home is also organised on a similar basis with a sharing of costs. However, several Cantons have reduced costs for individuals, as they encourage the elderly to stay at home for a longer period.

### **The future**

The population over age 80 in Switzerland will more than double between 2016 and 2040, requiring more than 53,000 additional beds in specialist establishments. The cost as a percentage of GDP will treble by 2060, requiring a re-think of the design and financing of provision, as well as a 50% increase in personnel, a challenge when the active population is expected to stagnate in size.

One expected change is that an increasing proportion of the elderly will likely be treated residentially (many living in nursing homes require little medical treatment), given the reduced costs. It is likely that hybrid solutions (“sheltered housing”) will become more common. This has been encouraged by Cantons who at present effectively finance the residual cost of LTC. Despite this, it is estimated that investment of around CHF20 billion in the next 25 years will be needed just to meet the residential costs implied by the number of new places required.

Another challenge will be dealing with the increasing number of individuals with Alzheimer’s disease and dementia.

Politically, there are several discussions about either introducing a form of LTC insurance, individual accounts that can be used to provide for health care costs or a more centralised financing and controlling approach. However, no national consensus has yet developed.

### **UNITED KINGDOM**

The U.K. provides a situation that has features of several of the above countries, summarized in the following. Local authorities are required to provide access to long-term care, both in the individual's house as long as possible and in an institutional care setting thereafter, with services provided with no fees only to those with a low amount of assets (in 2016 less than GBP23,000). Many people thus have to pay for this care by themselves, at least until they have sold their house and used all the resulting proceeds, whereupon the municipal government takes over. As indicated earlier, this requires that the municipal government has sufficient funds to provide these services.

## CHAPTER 9: OTHER LTC-RELATED ISSUES

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### **INTRODUCTION**

LTC involves many complex issues. The objective of this chapter is to address some of issues not specifically covered in earlier chapters. They include non-elderly affected populations, certain program design issues and techniques to mitigate LTC risks and costs, the role of regulators and need for enhanced information for stakeholders. Finally, there is a discussion of the roles of actuaries in the LTC arena, and how they can contribute to the solutions of the LTC issues and crisis (as discussed in Chapter 10).

### **LTC NEEDS FOR POPULATION GROUPS OTHER THAN THE ELDERLY**

Although the focus of this paper is on the aged whose LTC needs are significant, it is important to recognize that the need for LTC is not limited to this age group.

A need for LTC services can arise at any age, although there is often a broader need and much greater prevalence of LTC services at the older ages. For example, since such conditions as debilitating spinal injuries, stroke and neurological conditions can occur at any age, care is often needed for those affected at younger ages, especially disabled children as they grow up. In addition, since it may be impossible for families to provide adequate home and medical care to those who are unfortunate enough to suffer from birth defects, long-term support services may be needed for the very young as well. Other population segments, such as injured veterans and injured workers after retirement, may also need support for the rest of their lives.

The responsibility to provide for the non-aged may be shared by many, such as the community, employers (for severe workers compensation cases) and social services. An issue that may arise in these cases is what happens when the rights/benefits are exhausted. While this issue also exists for aged LTC patients, it may be more pressing for those whose LTC coverage terminates at much younger ages. This may become a serious societal problem. The needs of these other population segments needing LTC services somewhat overlap with needs for the elderly. In the United States, about 63% of LTC claimants are aged 65 and older (6.3 million), while the remaining 37% are 64 years of age and younger (3.7 million) (Rogers and Komisar (2003)). Unique aspects of LTC associated with these population segments are not specifically addressed in this paper.

### **PROGRAM DESIGN ISSUES**

Benefit design is important in both public and private sector programs, both to enhance the balance between costs and benefits, and to provide incentives to deliver optimal care and contribute to appropriate decision-making at both an individual and society level.

To provide delivery of high quality services with dignity, incentives to provide LTC services in a home or community setting is desirable where practical.

Some level of public support may be required, particularly when the prevalence of the elderly demographic in many countries becomes quite large. Public concern regarding and oversight of the quality of universally provided care and the quality of life of the LTC patients may also be needed.



As discussed in chapter 9, a hybrid approach of public and private sector programs may be best in many countries with respect to practicality, affordability and consistency with cultural values. For instance, a multi-level program may be used, including all or several of: 1) self-funding, 2) private insurance or employee benefits, 3) social protection (welfare) and 4) social insurance.

### **HOW OVERUSE OR HIGH COST MIGHT BE CONTROLLED**

Cost pressures are bound to affect the delivery of appropriate and high quality of care. For example, *Economist* (2016) indicated that in the U.K., financing for LTC (a significant part of total social care) has been cut to the bone, including in-home care, which is currently provided by local councils and is means-tested. Financing decreased by 9 percent in real terms between 2010 and 2015. “By 2019-20 the funding shortfall for social care will be at least £2.8 billion a year, says a report by the King’s Fund, a think-tank.”

Several mitigation techniques have been used to control costs, which can spiral without controls. They include methods to support the independence of the individual, maintaining functional capacity and preventing disability in the first place. They can apply to the individual, caregivers, providers or sponsors of LTC programs. Those that may affect the personal delivery of LTC services include:

- Preventive activities. These include activities that can enhance the individual’s health and well-being condition, including healthy nutrition, regular physical activity and social interaction. It is important to keep individuals physically and mentally active, which may ultimately reduce utilization of LTC services. Such actions can also benefit overall health and reduce overall healthcare costs, in addition to reducing or delaying the need for LTC. Community programs can play an active and vital role in providing a range of physical and social activities and volunteering/working/learning opportunities.
  - Keeping the mind active and exposing it to new information, such as the use of brain games and reading, might defer onset or delay more complete dementia (Alzheimer’s disease), although the effectiveness of brain games has proven controversial.
  - Keeping physically active through such activities as walking or by taking resistance training, or reducing the amount of sedentary time, can reduce the need for several types of assistance.
  - Remaining in active contact with other people on a frequent basis.
- Greater use of less expensive care options such as care at home. Continued emphasis on care in the home and community can not only optimize personal and family-centered care, but also can mitigate costs. Normally, the lowest cost form of LTC is for people to be empowered to continue living in their own homes, with informal care. The use of formal caregivers at the individual’s home or in the community may not always lead to an overall reduction in costs, as there may be little incentive to avoid such care. Care is likely to begin at an earlier date, hence leading to a longer period of such care. In contrast, admission to a nursing home is often avoided at all costs, as this is usually looked on as an irrevocable decision.



- Adapting the home to the individual's condition can incentivize the individual and her/his family to reduce the need for caregivers and alternative facilities. This can be encouraged through tax incentives and subsidies, for example, in Canada. These can include, for example, toilets and showers made more age-appropriate such as ramps and support bars in showers. However, although preventive activities and home adaptations can delay the onset of LTC needs, they may not be delayed forever.
- Encouraging greater reliance on home care requires government and community support, e.g., through use of specialized social workers, short-term home aides (relief caregivers) such as for a day a week to relieve the load on family members, home-sharing and support services like making medical appointments, paying bills, transportation and obtaining food supplies.
- Home caregiver relief can be provided through use of adult daycare facilities where patients spend the day under professional supervision. This also reduces stress on home caregivers, resulting in enhanced personal productivity and earnings potential.
- Increase the number of part-time volunteers. A sharing program might be developed in a community, similar in approach to Give&Take Care in the U.K., in which volunteer hours given would "earn" caregiver hours provided in later life when in turn they are needed by the former caregiver to receive care for themselves. This may be particularly effective if early retirees are the voluntary caregivers involved; it may be difficult to develop such a sharing system for those who are younger, whose benefits would be so far in the future and contingent on the continuation of such a program.
- Providing accessibility options for the elderly in their home, including affordable transportation options and an environment where the elderly can feel safe.
- Changing housing policy (Singapore), encouraging the use of reverse mortgages or include elderly housing within public housing communities rather than nursing homes.
- Sponsorship of older-age friendly communities in which participants can take more personal responsibility, resulting in lower cost compared to institutional care.
- Some communities (e.g., certain religious and ethnic groups) consider it their duty to support the needy, including those needing LTC. They should be encouraged to continue their support, through such approaches as government subsidies and tax credits.
- Encouraging entry into the overall LTC program at younger ages. This can reduce anti-selection for private plans that could be encouraged by a longer period over which to spread costs and facilitate the build-up of funds for future needs. In addition, if the program is financed on a pay-as-you-go contribution basis, involvement of contributors at younger ages can reduce the cost for the current generation.

Methods that might be used to reduce the use and cost of institutional care include:

- Wide use of close family members or a strong voluntary sector. This may not be practical in many situations; however, given smaller families, increased female labour force participation and personal and government budget pressures.
- Longer elimination/waiting periods and higher co-payments to reduce the incentive to receive unneeded care, especially for short-term situations, as these may be budgeteable. However, this might also reduce the incentive to use care that is needed; thus, it is a double-edged sword.
- Periodic re-evaluation of eligibility for benefits, although this may not be appropriate in many circumstances, e.g., if suffering from a cognitive condition or other ailments known to be irreversible regardless of the health regimen followed.
- Intermediate care, such as the use of assisted living facilities, might be provided rather than a nursing home. Although there may be somewhat lower costs per period, the overall costs may however be larger in total. People are more inclined to move to such an institution as it usually does not have the adverse association as does a nursing home (being there for the rest of life or feeling abandoned).
- Situating assisted living and nursing home facilities in less expensive areas can reduce the cost of these facilities. Unfortunately, the siting of them too far from friends and relatives will likely lead to fewer visits, with both adverse mental and physical consequences.
- Less expensive end-of-life care. In certain cases, palliative or hospice care, rather than acute medical care provided in a hospital or nursing home, could be the default approach provided at the end of life, although not a substitute for LTC.
- Rationing of some sort, e.g., a limited number of available institutions or limited number or intensity of services provided. Time limits can also be used, either on the front end (for instance the two year wait to get into the United States Social Security disability program) or on the back end. Once again, this may limit the availability of care for individuals in need.

Additional observations include:

- Support or encouragement, through regulatory and tax benefits, for group LTC coverage, as this will reduce administrative and management costs relative to that of individual coverage, while providing some cross-subsidization between group members where appropriate.
- Tax incentives can serve as a tool to encourage the purchase of private LTC insurance, as can regulations enabling the transfer of any accumulated reserves when jobs or providers are changed, and the provision of smaller benefits when terminating coverage. Regulations should be carefully crafted, as portability of reserves for such coverage is not common at present. Such tax incentives tend however to only benefit to the well-off.
- Changing inheritance rules (Taiwan – reduced the rate after deductions to 10%) or reducing taxation (Hong Kong – no inheritance or income tax for individuals).

- Integration (bundling) of LTC benefits with other programs, such as a national healthcare program, retirement benefits, and disability (at younger age) benefits. Although a seamless and comprehensive program is desirable, we recognize that is difficult to implement. If participation is voluntary, the program might result in increased costs per person covered as a result of anti-selection, which can ultimately lead to an assessment spiral.
- Requiring financial participation by family members, as in, e.g., Medicaid (United States, up to a certain level of assets) and in Israel where children are required to participate.
- Requiring adults to provide for their elderly parents through legislation, e.g., Singapore and India. Some states in the United States are considering this in the form of filial responsibility laws.
- Government and other public information campaigns aimed at both at-risk populations and the general population. This could, for example, include an encouragement to increase the number of providers and caregivers (institutions, nurses and caregivers to be able to meet future demand for services), which could increase competition. In the United States this has taken the form of “Own Your Future” campaigns supported by the national government but delivered through the states.
- With respect to providers,
  - Negotiating prices or charges with providers
  - Making government support/subsidies available, e.g., subsidized support for training, minimum standards of care and caregivers and periodic monitoring of quality
  - Encouraging not-for-profit providers or support groups.
- Strict conditions necessary for admission to the institution, e.g., instead of a medically necessary constraint (that may be subject to abuse), apply a two ADL requirement. Alternatively, in some situations, claims management might view providing benefits as an entitlement, rather than determining benefit eligibility according to strict contractual or program benefit definitions.
- Timely transfer of patients from hospitals to intermediate-care or LTC facilities, homes or hospice care to reduce overall costs, even though this may increase the cost of LTC facilities. Enhanced coordination and a structure that reduces isolated/siloed types of facilities can provide more appropriate care and reduce costs.
- Providing catastrophic coverage only – benefits reimbursed after a specified amount of self-insurance, i.e., long elimination periods (or number of home visits), possibly varying by income level. Note that care is needed to avoid overuse or even fraud just to reach such limits.
- Design and encourage family LTC policies, which cover several, or all, family members. In essence, such policies lead to a subsidization by the younger generation of their parents.

## **ROLE OF THE REGULATOR**

There are many functions that a regulator of LTC can perform. These include ensuring that LTC providers and formal caregivers perform a minimum level of quality of care. Where there is a private insurance market, other functions are needed, e.g., deciding on which insurers and agents are qualified to participate in an LTC business, assessing the adequacy of the financial and educational soundness of providers and insurers, policy form and rate approvals, and ensuring satisfactory market conduct.

A challenging aspect of LTC insurance is the high level of uncertainty regarding future morbidity and mortality assumptions, especially rates of mortality improvement and the likelihood that medical advancements will enable many years of living with a chronic physical or mental condition (i.e., as an LTC patient). These factors, together with low investment returns and lower than expected voluntary policy terminations, drove many insurers out of the LTC market in the United States. To address the effect of these developments, LTC insurers can, with regulatory approval, update the structure of provided benefits and the premiums they charge once every few years.

Nevertheless, such changes can lead to public resentment and lack of trust. A clear and well understood policy updating procedures, safety net programs when the covered person is unable to continue to pay premiums, together with an educational campaign, can improve the position of the LTC insurance and protection of the public and program participants.

An often-suggested idea is that regulators should require or encourage insurers to simplify the structure and explanation of long-term care products and application for these products. Specifically, where LTC insurance is offered, the idea is to require all LTC insurance to provide a specified standard “basic” coverage.

Regulations could be adopted to support level premiums beyond retirement age and benefits payable for life. For group coverage, it would be useful to explore portability of coverage between insurers for employees who move from one job to another.

National standards could be set for the qualification for LTC benefits, in terms of such factors as the number and types of ADLs required and their period verification, and quality standards and training for providers and caregivers.

Ensuring that underwriting-at-claim time does not occur – proper information should be available at time of application to avoid future misunderstanding regarding coverage and that underwriting is based on objective and complete information regarding the applicant.

It is also important to provide protection for the elderly, especially those experiencing cognitive problems, against financial exploitation, as well as normal day-to-day banking and other financial functions. These include scams and schemes whose aim is to take advantage of those who are vulnerable (such as too-good-to-be true schemes; the average age of victims is about age 75) with regards to their financial resources. This concern does not just relate to those suffering from dementia, but also those experiencing the normal aging process, especially at ages during which LTC is often used, as financial decision-making may peak in the mid-50s. Banks and other financial institutions should put in additional safeguards such as requiring additional signatures for checks over a certain size. Fraud may not only be perpetrated by third parties, but by opportunistic relatives as well.

## **RAISING AWARENESS OF LTC NEEDS AND ISSUES**

Awareness of the need to address LTC issues should be increased, while society (government and others) should be encouraged to plan for a future upsurge in the volume and types of LTC needs. This could include the development of new programs, while encouraging participation in existing programs and enhancing current programs. Stakeholders should also be prepared to address and mitigate financing issues, as well as the potential lack of supply of caregivers and facilities necessary to meet future demand.

Advanced planning for future LTC by many of the stakeholders involved appears to be limited in many countries. Key stakeholders include:

- *Public policy makers* – LTC long-term planning is rarely discussed, in part because many governments and legislators are often more concerned with current short-term problems than to focus on problems that will emerge after they have left office, and delay until they become an emergency. LTC issues are rarely addressed in retirement policy discussions. However, this topic is starting to attract more attention – see European Commission (2015) that projects a larger increase for public costs of long-term care in the EU by 2060 (as a percentage of GDP) than for either pensions or health care – about a 75% increase as a percentage of GDP between 2013 and 2060.
- *Employers* – Few employers provide for such care, for workers as current caregivers or as future recipients as beneficiaries, either on a standalone basis or coordinated with retirement or health benefits. Nevertheless, generous benefits from retirement programs can provide financial assistance to satisfy these needs.
- *Individuals* – Many individuals and their families have found it quite difficult to plan or provide for retirement, let alone LTC needs that may arise twenty or more years after retirement. Financial planners often find it challenging to get individuals to save for retirement, let alone for LTC needs. Therefore, it is particularly important to discuss these financial issues in a comprehensive manner, starting at younger ages for by the time benefits are needed the participants may not have made sufficient resources or may no longer have adequate mental or physical faculties to fully understand available LTC options and benefits, and their implications. Retirement needs should be thought of as including LTC needs, not separate from them.

Advanced planning for personal LTC risk is especially critical for low- to middle-income households. The wealthiest households should be able to finance their own LTC costs and the poorest one will likely receive public support. For the vast majority of other households, one of several approaches might be taken, including (1) in those countries with a wealth- or means-test, deplete personal wealth to qualify for public support, (2) purchase private insurance, where available and affordable, (3) save enough, through equity in a home or through other savings vehicles, so that when the need for LTC services arise it can be afforded. In any case, unexpected household financial expenses may deplete household emergency funds so that other sources may be needed.

- *Actuaries* – They can be the most qualified financial planners for retirement and LTC advice, with their knowledge of insurance laws and regulations, policy forms and legal language, as well as their training in assessing future financial needs and evaluating

their impacts. Actuaries may also be best qualified to evaluate program design benefits, their financial impact and risks, and design LTC programs and policies. Actuaries and other researchers need to encourage the development and public availability of relevant data so that better public and private insurer decision-making can be made.

### **PROVISION OF INFORMATION ABOUT AVAILABLE LTC SERVICES AND PROGRAMS**

It is important to provide individuals and other stakeholders with objective information on the availability, features and cost of their LTC options, as well as on preventive and mitigating strategies. This information should be delivered or available as early in life as practical – not only at the time that a parent(s) or oneself needs such services. Similar to the importance of starting early to plan for savings to be used in retirement, it is also important to start planning early as to how to deal with LTC.

Ideally, financial and lifecycle planning classes in high schools and colleges, as well as part of adult continuing education, should include chapters on retirement planning, on LTC needs and planning, and on general “life savings” options and strategies. Information concerning longevity and financial risks need to be covered, including what responsibilities the individual and government programs will likely bear. Similar information should be made available at the time of an individual’s retirement.

It would be useful in planning to recognize the likelihood that the individual (or couple, where applicable) will need LTC, although this can vary significantly by individual, gender, current age, wealth and country. Due to their longer expected longevity, this is especially important for females, who as a result, tend to have a longer period of LTC need compared to that for a male at the same age. Similarly, those who are unmarried and those with lower income will have a longer period during which LTC services will be needed. A financial plan that doesn’t incorporate LTC expenses may significantly overestimate its long-term sustainability.

Although some of these elements may exist in various educational programs, it is worthwhile as a public service for the government, as well as actuarial associations, to develop or at least know where an individual can go to obtain a detailed educational program covering these issues.

Making easy-to-understand and act-upon information available on the internet is important for consumers and their families, as well as clearly written guides to what to expect regarding LTC services in general and insurance contracts where relevant.

A particularly important area is prevention aimed at the risks faced by the elderly, such as appropriate nutrition, the need of physical activity to keep mobile and prevent falls, and intellectual and verbal activity to keep brain acuity high. However, even more than in general public campaigns, consideration is needed regarding how to ensure that such promotions reach their target audience – the elderly and those supporting them – and, more importantly, are acted upon.

Technological innovations providing advice and support to individuals, in the media, social media, and through personal mobile applications, may improve self-management of care and the prevention of mismanagement of medications. At advanced ages, that can differ by

individual, difficulty in focusing on screens can make this delivery mechanism problematic. However, social networks have blogs and support groups for LTC families in many cases, although not superior to face-to-face interface with the patient, where practical. These should be enhanced and developed, in line with the suggestions and discussion in the next two sections about LTC knowledge and information.

Measures designed to enhance social participation and integration of the elderly, such as through attending daycare and support groups, better design of infrastructure to improve accessibility, and adapting housing to better care for physical needs, can all lead to a reduction in the need for care.

Insurance is a complex mystery for most people. The multitude of products and options offered by the insurance industry in some countries, such as the United States, can overwhelm. This is especially true for LTC since the need often occurs far in the future and may not be clearly understood. Finally, the language of many insurance contracts is so legalistic and complicated that few can or want to understand them; since few read their policies from beginning to end, the insured does not assess what they will get and if it will be sufficient. Some of these concerns are relevant whether LTC is available from government or private insurance programs.

In addition, LTC coverage can be subjected to complicated government rules and regulations. The pressures on LTC insurers, as discussed earlier, often result in contractual clauses aimed at limiting the actual payment of benefits to make the insurance more affordable. These can include strict underwriting, introduction of barriers for claiming benefits (such as strict enforcement of ADLs and validation of existing patients' ADLs), long front-end elimination periods, and maximum daily benefits. Indeed, experience in Israel demonstrated that LTC insurance claims have the highest rates of rejection and delay of any insurance coverage.

Further, there is insufficient recognition and understanding of LTC issues by many stakeholders. Unfortunately, those who best understand them are those who have recently experienced these issues on a personal level. Thus, the first step in addressing the upcoming LTC crisis is to provide appropriate consumer education, tailored by age and subgroups of the population, starting at the high school level. The default choice is often whatever can be afforded. Consumer education should cover both public and private programs. Easily accessible and responsive complaint services (ombudsman function) provided by government or other objective public sources are also important to ensure continually improving quality of care by providers and formal caregivers.

Applications available to the public, e.g., on mobile devices or in public websites could provide easy comparison of LTC policies, benefits, restrictions and costs. Further, available LTC calculators that assess family resources and LTC needs versus potential resources may be useful. Public support personnel and arbitration processes for resolving LTC disputes should be available. In many respects, this is the same direction envisioned in the healthcare market.

The need for simplicity, transparency, and education should be considered when LTC coverage is being designed and priced. That process should be led by government regulators or public interest groups, assisted by actuaries. Actuaries should also inform policy makers,

particularly board and management of insurance companies, and consumer organizations of all important and relevant issues, alternatives and their costs.

Finally, it is important to note that a fine balance between useful benefits, adequate premium levels and consumer protection is desired so that insurers are not discouraged from offering LTC coverage, and consumers are not discouraged from buying it.

### **THE ROLE OF ACTUARIES**

According to IAA (2013), "Actuaries fulfill many roles in a broad range of environments, ... have a detailed understanding of economic, financial, demographic and insurance risks and expertise in:

- developing and using statistical and financial models to inform financial decisions;
- pricing, establishing the amount of liabilities, and setting capital requirements for uncertain future events.

Actuaries also provide advice on the adequacy of risk assessment, reinsurance arrangements, investment policies, capital levels and stress testing of the future financial condition of a financial institution ... (including) pension plans and governmental systems, such as social insurance plans. ... Actuaries add value to the raw output of a software model by using their professional judgment to assess and explain the practical implications of the results and the limitations of the model."

Actuaries recognize the risks involved in any projection involving human behavior, as well as the estimations of the future, especially over the longer term. Nevertheless, it is difficult for anyone to estimate the effect of societal processes, including future mortality, morbidity, costs, public acceptance/behaviour and investment returns. Continued gathering of relevant information will provide input in refining such estimates.

Developing estimates of the costs associated with LTC require modeling and assessment of long-term contingencies involving complex morbidity, mortality, financial, legal, and cultural and societal considerations, as well as understanding the behavior of many stakeholders, from individuals and their families to insurance companies, providers, local, state and national governments, and society at large. For example, actuarial estimates of future longevity can help to determine valuations of retirement homes and proper charges for entry fees for and assessments of solvency for CCRCs that guarantee appropriate housing for participants' life. Actuaries are particularly suitable based on their education and experience to perform this actuarial modeling and assessment of LTC over its ultra-long time horizons.

They also realize that it may not be appropriate for experience taken from one set of conditions to be used in another. For example, mortality experience gained from reported general population studies may not be appropriate to be applied in a LTC insurance context because of a different mix of individuals involved. Also, the very existence of a program or certain design features can alter the rate of utilization or intensity of benefits used. Cross country comparison of experience need to be made with caution because of differences by country in such factors as attitudes toward and history of LTC, availability and cost of providers of care, and its financing.



The LTC crisis is driven by demographic, mortality and morbidity trends, medical developments, and societal and financial changes that increase the share of the elderly population, while decreasing the young and middle-age working population who finance LTC and provide the workforce of caregivers. Estimates of such developments fall directly under actuarial expertise.

Actuaries are also concerned with the development and management of program design, both in the private market and public sector. Their expertise involves the analysis of the costs and risks of these programs.

Actuaries also understand how to integrate dynamic real-time big data information and trends of population segments, taking in account behaviors, customs, treatments, and interactions to glean new insights from the data, and incorporate them into their models, scenarios, and strategic and tactical designs and projections.

In many countries, the absence of complete, reliable and relevant LTC-related data is unfortunately the reality. Actuaries should encourage the collection of such data and lead this process.

They can also assist in helping all stakeholders understand available options and their interactions, costs and risks involved in the wide range of elements of LTC benefits and costs.

In sum, active actuarial involvement in the design and management of these programs will prove beneficial as a result of the experience and expertise of actuaries in modeling related long-term contingencies and in assessing the behaviour of the stakeholders involved.

Unfortunately, actuaries are not at present sufficiently involved in the discussions on public LTC programs in many countries. The stakeholders should be made aware of the value of potential contributions that could be made by actuaries who practice in different fields. For example, actuaries at the United States Social Security Administration have deep expertise in population projections, analysis of programs with broad demographic risk pooling, and analysis of intergenerational transfers. This knowledge is crucial in developing public LTC schemes, as well as analysis of the interaction of public and private provisions.

## **CHAPTER 10: STRATEGIC SOLUTIONS FOR THE LTC CRISIS**

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Previous chapters discussed various aspects of LTC, including its stakeholders; the LTC process and its development over the life of the patient; the structures and facilities used to support LTC patients and their caregivers; personal, insurance, community and state sources for financing LTC; and demographic and morbidity experience and modeling considerations. As indicated, providing and financing LTC involve complex issues with which all countries – developed as well as developing – may struggle to effectively address, and which are expected to become a heavier burden to all societies.

Theoretically, the ideal set of benefits would be provided through a comprehensive / coordinated mechanism to finance and deliver the total needs for all seniors, providing ultimate financial security. Unfortunately, such an approach is not practical in the real world, as it would in almost all cases be too expensive in view of the other competing demands for public and private funds. Due to limited resources, it will be difficult to achieve a cost-effective and high quality approach to the delivery of LTC services to all.

LTC issues are at the intersection between changes in demographics and cultural/family norms, national health policy and existing social security arrangements. There is no unique best solution for all countries or locations, although some of the principles discussed here apply to all populations.

LTC directly affects the elderly sector of the population, along with their relatives, friends and communities. This will become more important due to increasing longevity and low fertility, while at the same time advances in medical technology, treatments, and hospitalization/nursing may enhance the survivability of chronic and LTC patients. Consequently, the needs and cost of care will likely soar. The management and financing of LTC will become a heavier burden on private and public resources in most countries, which will make it more urgent politically.

On the other hand, public sector or private LTC insurance coverage is limited and public financing will in many cases be insufficient. As stated in Scheil-Adlung (2015): “More than 48 per cent of the world’s population is not covered by any national legislation. Another 46.3 per cent of the global population is largely excluded from coverage due to narrow means-testing regulations that force persons aged 65+ in need of LTC to become poor before they become eligible for LTC services.” Globally the average public expenditure for LTC is currently less than 1 per cent of GDP.

All these issues, combined with a global shortage of trained LTC professionals and increased human and economic cost of using informal caregivers, contribute to what is called the upcoming “LTC crisis”.

In this chapter, the LTC crisis and strategic design approaches to mitigate this crisis are discussed. Specifically, the support of the LTC insurance market, the option of a mandatory, rather than a voluntary LTC program, and a need for cooperation between public and private sources. It ends with a discussion of criteria from which a program or a revision to a program can be assessed.

## **THE LONG-TERM CARE CRISIS**

Two main factors are driving what has been referred to as the LTC crisis – an increase in demand and the insufficiency of resources to meet this demand. The first factor is the result of demographic trends that increase the size of the aging population that may need and benefit from LTC services. The second factor is caused by other demographic factors and cultural and societal changes, including the decrease in available young and middle-age working population and changes in the family structure of those who would provide and finance LTC as well as provide the workforce of caregivers.

LTC can be characterized by an inter-generational transfer of resources, as the main beneficiaries are the aged while the main contributors are those of working-age. Advances in medical technology and treatment, as well as increasing treatment costs, tend to exacerbate the impact of these factors.

Currently, the four main sources of providing and financing LTC (individual savings including equity in a home, employer-sponsored savings, public programs and the private insurance market) do not cover all LTC needs for many individuals. The types and size of the gaps differ considerably. These gaps will tend to increase in the future. Independent of financing source used, providing incentives in the program design to mitigate high costs is an important cost control mechanism. A prime example is to provide additional motivation to make use of home-based services for as long as appropriate for the individual(s) involved by promoting personal responsibility and family support.

A long-term model of saving during one's working years for LTC needs in a manner similar to approaches used for pension savings doesn't work effectively because of factors including:

- As is evident from the pension arena in many countries, amounts saved (invested) are in many cases inadequate to meet the needs and desires of many retirees, especially for those late in life, who experience one or more unbudgeted expense items, or who experiences a disabled physical or mental condition. This in part reflects widely varying and low investment returns, increasing longevity and insufficient wages relative to consumption.
- Since the amounts needed to be saved for LTC can be quite large, sufficient saving may be difficult for many to achieve, given the investment risks and the short-term consumption alternatives that are available. Adding needed savings for LTC to the pool of capital needed to maintain the individual's desired standard of living only increases the already challenging financial situation.
- Between one-quarter to one-third of the population may eventually require LTC. Nevertheless, many more will have to continue saving until their deaths because they do not know if or when they will need such care. This means that the amount of savings needed may reduce their daily standard of living to financially provide both for their LTC needs and their heirs. The risk exists that their savings will not be sufficient to provide for the period during which formal LTC is needed. Even though there is a tendency for many retirees, regardless of income, to decrease their consumption as they age, this additional "savings" may not be sufficient to cover health and LTC costs.

- As salaries in the 21<sup>st</sup> century have stagnated for many and the workplace can be uncertain, the young will often prefer to use their resources for current consumption rather than save for future needs that may not arise for more than 50 year.
- In many cases, retirement programs do not provide for inflation protection, which is an important problem as the need for LTC can arise many years after retirement begins. Provider cost inflation may outpace any margin over consumption that retirement benefits may have provided in periods shortly after retirement. The cost of this inflation risk can be quite large over time.

As a result of these considerations, most of the younger working age population do not purchase private LTC insurance in countries, even where such an option is available. For example, according to the American Association for Long-Term Care Insurance (AALTCI (2016)), in the United States about 0.8% of LTC applicants were under age 35, 3.2% were between 35 and 44, 24.7% was between 45 and 54, 54.0% were between 55 and 64, while 17.3% were age 65 and older.

To set these percentages in perspective, the AALTCI estimated that in 2013 a reasonable maximum amount of coverage for a person aged 55 would need to be at least US\$162,000. For those who require LTC, it has been estimated that an average lifetime cost is now about \$260,000. The premium for this coverage ranged from US\$1,816 per year with minimal benefits to US\$3,725 per year for coverage with a 3% inflation protection.

And the crisis may be worse than illustrated, as private benefits may not be adequate. AALTCI (2016) notes that, in 2012, 10.2% had a policy providing benefits for a period shorter than 3 years, 31.2% had coverage for 3 years, 27.2% had coverage for 4 years, and the balance of about 30% had a longer benefit period of coverage, with only a few having lifetime coverage. Compared to the average claim period of 3.9 years, it seems that the benefit coverage period will not be sufficient for many insureds' needs. This means that they and their families will have to rely their own resources in the last years of their LTC (often the costliest) or means-tested benefits. Similar concerns arise when one considers those who lack the resources to pay the high premiums involved and thus elect benefits that will not prove sufficient for their LTC expenses, as well as those without proper coverage in the first place.

From the point of view of insurers, LTC insurance business is very risky to offer in a changing demographic, cultural and economic (especially low interest rates) environment. In addition, public expectations for "good coverage" has resulted in the United States in a steep increase in the cost of LTC coverage, with seemingly ever-increasing demands on the reserves, resources and capital of insurance companies. This is complicated by low demand at younger ages. Therefore, although premiums for LTC coverage may be reasonable from an actuarial perspective, they can become quite high when purchased at older ages. This has tended to generate anti-selection, that is, only those who expect to need or use the coverage apply for it. As a result of these factors, many insurance companies have left this market, with many of those remaining are struggling with it.

It thus appears that countries that have encouraged voluntary LTC insurance, as is offered in the United States and France, will not likely be able to provide sufficient affordable private-

sector coverage for the entire population. Even combination products, such as individual life-LTC, individual annuity-LTC, retirement-LTC or health-LTC policies as discussed in Chapter 7, may provide only a marginal or partial solution. The country will thus likely face a political dilemma: either introduce a compulsory solution, as discussed below, or eventually face high expenditures that in large part will necessarily come from public funds.

The government/community/public may eventually share in or bear the cost of LTC – either directly through a specific LTC program(s), or indirectly through welfare and medical support services provided in government or community-sponsored facilities or family in private homes. This makes LTC not only a personal issue, but a political issue as well.

Looking at public LTC programs, responsibility is often shared between national, sub-national and local governments. Creative community or charitable programs may provide assistance using concepts of the sharing economy, e.g., banking volunteer credits obtained by early retirees for use in older ages when support needs increase for that individual.

Because of the high cost of LTC, public finances may not be able to shoulder the full burden. For example, the Canadian Life and Health Insurance Association (CLHIA, 2012) evaluated the obligation that would be associated with LTC expenses of Canadians over the next 35 years, the time for baby boomers to pass through their retirement years (total population 35 million; 1 C\$ = 0.78 US\$):

*“Conservatively, the cost in current dollars, of providing long-term care over this timeframe is almost C\$1.2 trillion. Current levels of government programs and funding support will cover about C\$595 billion of this total cost. As a result, Canadians currently have an unfunded liability for long-term care of C\$590 billion which is the equivalent of 94 percent [of] all individual registered savings plans in Canada today.”*

Thus, the current Canadian government program is expected to cover about half of the total cost, leaving a growing unfunded expense sitting alongside depleted retirement assets. Similar analyses have likely been conducted in other markets, reaching similar conclusions. And this does not even reflect the potential obligation for future generations.

The lack of available and accessible resources includes not only insufficient financing, but also insufficient human resources. As discussed in Chapter 5, there may be an inadequate supply of formal caregivers, as well as ever increasing pressure on informal caregivers.

Another view of this issue is not only to consider LTC purely as a burden, but also as an economic and job creation opportunity. LTC may become a vital part of a so-called “longevity economy” in many countries that focuses on providing for the overall needs of the elderly.

### **SUPPORT FOR LONG-TERM CARE INSURANCE AND SAVINGS VEHICLES**

As noted earlier, many insurance companies opted to leave the LTC market in the United States, in part because of the risks and the uncertainties involved (as well as the large amount of capital required). At the same time, many potential buyers of LTC coverage cannot afford the associated premiums. If the availability of LTC insurance is to be encouraged, both issues would be helped by a well-designed national support program.

First, it may be useful to provide LTC insurance or savings programs the same treatment and tax benefits that are provided to the pension market. This includes individual tax deductions and credits for LTC benefits, the ability to accumulate LTC funds tax-free until used (similar to U.S. 401(k) plans), and the ability to use the accumulated funds for LTC purposes without tax penalty in case of need. For insurance companies, this would provide avenues for growth and investment, simplification, and tax benefits when entering the market. Employers can be encouraged to participate in the premiums paid for their employees, if the total funds accumulated belong to the employees in case they leave their job.

A combination of insurance and savings may prove effective for some, for example in a single insurance and saving product, e.g., a savings oriented life insurance or deferred annuity, combined with LTC benefits. A savings solution may be superior to an insurance solution for some because of the high probability of needing LTC services at some time during one's life. Although one might not mind paying \$1,000 to insure a house contents of \$100,000 for the upcoming year, it takes a lot more thought to pay \$25,000 to cover \$100,000 of LTC cover needed in twenty or thirty years.

In certain population segments, especially those who find it difficult to save, tax incentives may not provide sufficient incentive to offset meeting of current consumption needs. Other means will have to be found to serve those who are a part of those segments.

The use of collective (group) LTC coverage, especially for groups of employees (e.g., in the same workplace or in the same union), can considerably reduce the uncertainty and insecurity felt by the group of insureds, minimize anti-selection, and simplify administration of the coverage. But in this case a clear transition-path for employees who leave the group is needed, so they will be able to continue their coverage with relatively minor impact (e.g., by assuring an alternative individual coverage or the ability to replace existing coverage with a paid-up policy with reduced benefits). Another design decision is what to do when an insurer decides to leave the market (e.g., when a collectively insured group ages) to ensure that the insureds will not be harmed.

One approach to consider would be to create a long-term care guarantee entity, similar to the U.S. Pension Benefit Guarantee Corporation that provides a government-backed guarantee that benefits will continue to be paid if the employer-sponsor reneges on its promises, in return for premiums paid to the guarantee entity by employers for the guarantee. Such an approach would protect the insureds of LTC insurers that fail, leave the market, or drop coverage for certain groups. Caution, however, is needed regarding to this approach, as it may be viewed as promoting financially unsound practices and introducing moral hazard. It is also risky for taxpayers who might ultimately have to financially support this type of program.

Another is to continue to emphasize the importance of pre-funding LTC indirectly through private sector methods, including better coordination between ex-ante savings vehicles as described in chapter 7 and LTC coverage. This will have to be supplemented with programs for those population segments that cannot afford to effectively participate in such programs.

## **MANDATORY LTC AND PUBLIC–PRIVATE COORDINATION**

Ultimately, it is doubtful whether the individual or the private market in its current form in most countries can provide by itself a sufficient LTC safety network for the entire population. This implies that, in one form or another, the public (in the form of national or local governments) must get involved. Indeed, even today governments, at least in the developed world, support LTC patients who are poor through various mechanisms (e.g., by means of social insurance, social welfare/assistance or heavy subsidy).

Several countries either offer the equivalent of a national LTC program or are considering such a program. In Israel, for example, the government is considering expanding its National Health Service to include LTC coverage, and to add to the national health tax an additional 0.5% of insured income for this coverage. The coverage would be basic, but universal. Insurance companies will be permitted to offer individual policies to those interested, which would extend the benefits offered by the government program. Other examples include Japan, which has introduced its Long-Term Health Care Insurance System in 2000, and the Nordic countries.

The challenge for a national program is to be able to operate on a sound financial basis and not to create false expectations. Reliance on overgenerous but not financially sustainable public programs may result in an exacerbation of the LTC crisis, as people will not be motivated to save to pay for additional coverage. In the case of benefit cuts of such public programs, the responsibility for providing LTC services may be shifted back to families, or some services will not be provided.

It is easier to implement benefits that satisfy most LTC needs in the context of a mandatory program than in a voluntary individual program. If LTC coverage becomes mandatory at all ages (or at least starting from working age), the pool of insureds would be sufficiently large and varied to prevent anti-selection. The size of the pool, and the distribution of costs and incidence by age, should ensure that sufficient funds will become available from younger members to cover the benefits and expenses of the program. In effect, as in social insurance, the program can use cross-subsidization to balance itself. Further, being mandatory, the program is assured of a future pool of entering members, and thus stability across time. Lacking these assurances, a voluntary program may be too risky to promise generous benefits that may have to be paid over many future years. A mandatory program might include:

- Paying benefits until the death of the LTC patient, rather than limiting them to a fixed duration or to a fixed ceiling amount.
- Linking the benefits to an index representing or related to actual LTC expenses.
- Providing support benefits to caregivers, to encourage less expensive and more humane care at home.
- Providing benefits that follow the development of LTC needs over time, rather than being set at a pre-determined fixed amount determined at the time benefits are initially paid.

- Providing benefits coordinated/integrated with other national benefits and welfare programs, such as healthcare or pension. In this way, such a program could combine the benefits of LTC-combination-individual coverage with the breadth of the national LTC and other safety network programs.
- Providing a scale of benefits linked to the economic status of the LTC patient and family, e.g., reduced benefits to more affluent people.

As discussed earlier, the sharp increase of the incidence and costs of LTC by age implies that in a pay-as-you-go program, premiums will become prohibitively expensive at advanced ages and is not feasible on an individual basis. This is a major disadvantage of LTC programs for individuals, even if designed for level premiums, where entry at ages 60 and older can require costly and even prohibitively large premiums for many. Further, in the general case in which longer-term, reserve-based premiums are used (level as long as experience is as expected) where a share of the early premiums is set aside to cover future costs, the premiums for entry ages 60 and above will be quite high in any event, making it very difficult for those with limited retirement income to afford it.

In a mandatory national LTC program as discussed in Nordman (2016), these premium issues are easier to resolve. The program could have fixed, or even decreasing premiums beyond retirement age, with contributions during working ages linked to wages, set at a level that considers other societal considerations (e.g., lower premiums for parents with young children or during periods of unemployment), balanced with the financial needs of the LTC program. In a voluntary program, even with subsidies, benefits may not adequately provide needed coverage that many would find affordable.

Regardless of whether a national LTC program exists or not, a common approach today transfers some or all LTC support to local governments and to voluntary not-for-profit organizations, which are familiar with local population needs, and are better equipped to match these needs with appropriate social services and local healthcare support. This can be done in cooperation with insurance companies or healthcare organizations, thus combining resources and information on potential patients and taking preventive actions, as appropriate.

To summarize, the coordination of sources of LTC services between formal and informal, and financing between public and private sources, combined with a requirement for mandatory basic benefits may be a viable way to avert a country's LTC crisis.

### **CRITERIA TO ASSESS THE EFFECTIVENESS OF A LTC PROGRAM**

In the development or review of a LTC program, it is worthwhile to assess the program against a set of objectives. The following are consistent with the criteria developed by the American Academy of Actuaries (2016). These can include:

- Population covered. Although specific population segments may be addressed by a program, to avoid false expectations a realistic assessment of the comprehensive/holistic coverages provided should be compared with the desired type and appropriateness of care. The desired participation, in terms of the number of people covered and penetration of target population segments, should be assessed, as



well as the method used to determine eligibility for various benefits for appropriateness and relevance to the population covered.

- **Benefit design.** Overall, the set of benefits provided should be consistent with the needs of the users (and their families), which can vary widely, and the availability of resources and their cost. The benefits provided need to be understandable and not overly complex, especially considering those affected and the very long planning period for consumers involved. A key element of affordability is whether the program provides a set of comprehensive or limited benefits, and whether it is set up on a mandatory or voluntary (social safety net) basis. Eligibility for care at alternative locations and limits for benefits need to be established, as well as what might happen if those limits are exceeded. Appropriate mitigation approaches and incentives to avoid excessive use need to be assessed, especially with respect to informal care, which should be encouraged. Techniques to avoid fraud and abuse need to be put in place, e.g., not using LTC benefits to provide for normal residential needs. The extent of coordination and integration with other programs also need to be considered.
- **Appropriateness and quality.** Coordination with other needs is desirable. Ensuring dignity and quality of life are important considerations, as are understandability of the program and provider choice, where applicable. Expected or minimum degree of care by provider or caregiver should be established, included needed training. Proper incentives need to be established to encourage lower-cost techniques (e.g., informal caregivers and community support) with no sacrifice in quality of support provided, as well as the type and extent of regulatory oversight of providers and caregivers.
- **Affordability, both to the individual(s) involved and society.** Although ideally benefits should be comprehensive, some compromises may have to be made to control costs. In addition, the program has to achieve reasonable efficiency objectives. Ideally, benefits should be coordinated with retirement income or wealth. In doing so, the program needs to consider the incentives and viewpoints of both the providers and recipients of care.
- **Risk management and cost control.** The objectives of the program and criteria to measure them should be determined in advance. Alignment of stakeholder interests and incentives will provide a basis for realistic participation and cost projections. Although there are several approaches that can be taken (illustrated in chapter 8), a realistic assessment is needed to identify the best overall approaches a country or community will take appropriate for the values of the country or community. Areas of significant uncertainties involved should be assessed and evaluated on a periodic basis to refine the program as experience is obtained.
- **Sustainability and financial soundness** is especially important given the very long-term nature of LTC programs. This affects the confidence given in the long-term achievability of objectives at an affordable cost to individuals and society. To this end, an understanding of potential areas of anti-selection and remedies are needed.

Possible unintended consequences and resulting anti-selection and overuse, as discussed in chapter 9, also need to be assessed. Based on the experience of the national case studies in chapter 8, regular review of objectives and the extent that the program has fallen short of

those objectives may result in periodic updates, although if possible, they should not interfere with reasonable expectations of those who planned for these years in their life.

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## **GLOSSARY**

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Terminology used in discussing LTC on a global level can be somewhat confusing, as alternative words for a similar approach and type of participant are used in different countries.

**Assisted living facility** – A residential care setting for those who need some assistance with their daily activities, but can live independently, often with more intensive care available, when needed.

**Caregiver** – A person who provides care of some sort, either informal or formal, often provided at home, but also in an institution.

**Chronic condition** – A chronic condition is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease. It can be the result of one or more diseases or an accident, whose effects tend to last for more than three months.

**Continuing care retirement community** (also referred to as life plan communities or Continuing Care at Home) – A membership community that offers a continuum of LTC care in independent living, assisted living and skilled nursing care as needs change. Often a relatively large entry fee is required.

**Formal caregiver** – A caregiver who is paid for caregiving services, such as home health aides, nurses and (physical and psychological) therapists. Can be provided at home, in a community or at a facility.

**Hospice care** – A method of providing care at the very end-of-life, often at home and with reduced medicine in anticipation of death.

**Informal caregiver** (also referred to as carers) – An unpaid caregiver, including friends, neighbors or religious community members.

**Long-term care** (also referred to as long-term care services and support) – Supportive services to individuals of any age who live with chronic and disabling physical or mental conditions regardless of setting.

**Long-term care insurance** – An insurance contract, usually provided by a private insurance company. It can either take the form of coverage in a mono-line policy or as part of a life insurance or annuity policy. The form and benefits provided differs by country.

**Nursing home** – A facility that provides relatively intense LTC services, including around-the-clock care, including nursing.

**Palliative care** – A method of providing pain relief, rest and some quality of life, typically provided at the end of life.

**Very old age dependency ratio** – The ratio of the population at least age 80 to those of working age.

## APPENDIX – THE NATURE OF LONG-TERM CARE

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This appendix is a discussion of the nature of LTC, distinguishing LTC from other forms of impairment. According to WHO (1980):

- “Impairment: any loss or abnormality of psychological, physiological or anatomical structure or function.
- Disability: any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.
- Handicap: a disadvantage for a given individual that limits or prevents the fulfillment of a role that is normal.

As traditionally used, *impairment* refers to a problem with a structure or organ of the body; *disability* is a functional limitation with regard to a particular activity; and *handicap* refers to a disadvantage in filling a role in life relative to a peer group.”

In contrast, according to WHO (2002), the International Classification of Functioning, Disability and Health (ICF) uses *disability* to refer to an “overarching term covering the experience of functional limitation at the level of the body or organ system, person, and society. Disability is the outcome of the interaction between a person’s health condition and the context in which he or she finds him- or herself. Context is made up of personal factors (e.g., age, gender, race, educational level) and (external) environmental factors (e.g., attitudes, physical environment and assistive technology, policies, services, natural environment, personal support).” According to this reference, LTC, as discussed in this paper, is a disability.

Disability is described from three perspectives or levels:

- Body: regarding bodily functions and structures, where an experience of disability is called impairment (e.g., lack of muscle tone, lack of speech, incontinence, intellectual impairment);
- Person: activities where an experience of disability is called an activity limitation (e.g., inability to walk, to communicate, to self-care);
- Society (or person within society): where an experience of disability is called a participation restriction (e.g., not working because of inaccessible environment, not communicating because people do not engage in conversations). A person may have no ability and still be able to participate given the right environmental facilitators. For example, a person may be unable to walk but can get around in a wheelchair, or can do something but be prevented from doing it because of environmental barriers (such as the ability to communicate with others but not given the opportunity to do so because of negative attitudes towards disability).

In other words: impairment and handicapping denote a “state” or “status” that limits the fulfillment of a “normal” role of a person, while LTC is a process that manifests itself in the person’s bodily, personal, and societal life. Further, the person’s condition may remain stable without deterioration, or may even be improved with the aid of medical technology (e.g., systems that can help people with foot and thigh weakness caused by central nervous

system deficiencies to enjoy the freedom of walking naturally with hip or knee replacements that enable people to resume their previous life style). However, normally the LTC process is either chronic, remains stable for a long time or deteriorates over time. In fact, it cannot be improved, as it is a process of assured eventual decline.

### **LONG-TERM SERVICES AND SUPPORT**

LTC is also referred to as Long-Term Services and Support (LTSS). LTSS refers to a broad range of services by paid or unpaid caregivers that assist people who have limitations in their ability to care for themselves because of a physical, cognitive, or chronic health condition that is expected to continue for at least 90 days. These care needs may arise from 1) an underlying health condition as is most common among older adults, 2) an inherited or acquired disabling condition among younger adults, and/or 3) a condition present at birth.

Services and support needed cover three main areas: (1) living expenses, including food and residence, real estate taxes and maintenance, a screen(s) or reading/viewing material, people to relate to and similar things – these tend to slowly decline in need, ultimately stabilizing at a low level; (2) assistance with daily living activities where needed; and (3) healthcare costs, which tends to increase gradually or suddenly, often covered by health insurance or a national/community/governmental health program.

A person who needs LTSS often requires assistance with one or more ADLs such as bathing, dressing, eating, transferring, and walking and/or instrumental activities of daily living or IADLs that include meal preparation, money management, house cleaning, medication management, and transportation. LTSS may include hands-on assistance, supervision, cueing or standby assistance, as well as assistive technologies and devices. The installation of home modifications, such as ramps and grab bars, may also be considered part of LTSS.

### **THREE SELECTED NEEDS OF THE ELDERLY**

The following discusses three selected features of daily living in more depth: transferring, medication and communication.

- Transferring, which includes mobility, is one of the most significant impediments LTC patients face throughout their LTC process, and one affecting most aging people and their caregivers. Transferring is required for such rudimentary activities as getting up, sitting down, getting out of bed, moving from and to other rooms, and for more extended activities like walking out of the home, getting to shops, climbing stairs, and even driving or getting into and out of a car. It can be a very hard task, for example, for an aging woman who has to help her 200 pound husband get out of bed or help in bathing/toileting.

In some cases, the need for transferring can also extend to living accommodation. Certain people with handicaps, including some using LTC services, require living facilities with no stairs to climb, or at a minimum must have elevators they can operate.

Because of its prevalence and visibility, transferring limitations are usually well provided for. A large industry, especially in more highly developed aging economies, has developed to provide transferring support equipment and tools, from a simple



cane or walking stick to a motorized chair that can climb stairs (one example of many modifications of the home that can make it more livable by the elderly). Orthopedic professionals, social workers and physical therapists can help those patients live comfortably despite mobility issues. This issue must be considered by those providing LTC treatments, program designers and policy makers.

- Taking medication does not need specialized nursing or medical assistance. Nevertheless, it is very important and difficult in some cases. When people have multiple prescriptions and need to take them several times a day, this can be a daunting task, especially if they suffer cognitive or memory limitations. In several states in the United States, there are strict regulations about who can help with medications. Medication management is a function that may require nursing assistance no matter the situs. In the extreme case, nurses cannot take pills out of pill models; rather, they can administer them only if they had been put into trays based on the time of the dose by the pharmacy. This indicates that local regulations can have a substantial role in defining the types of facilities and what they can do.
- The importance of communication is sometimes overlooked. This involves both finding emergency assistance and everyday relations with the outside world. For the former, many systems have been devised for a home or apartment to trigger follow-up by staff. For the latter, once a person loses the ability to use a telephone, communication with the outside world, both with relatives and friends, can be cut off. It has been found that a lack of social interaction can lead to much higher mortality, morbidity and mental deterioration. Although voice-technology can help, at advanced ages even answering the telephone can be frustrating and impossible in some cases. The use of a computer, even if the person has been introduced to its use at an earlier age, can be challenging, both in terms of ability to use a keyboard and mental concentration to look at a screen for lengthy periods.