



SOCIETY OF ACTUARIES

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Living to 100: ■ Growing Societal Impact and BY ANNA RAPPAPORT Challenges

There are many changes taking place due to increasingly aging populations. The **LIVING TO 100 SYMPOSIUM** took an in-depth look at the majority of them.

HAVE HAD THE PLEASURE of participating in all four Society of Actuaries' (SOA) Living to 100 longevity research symposia as an author, panelist and moderator, and as the keynoter for the first Living to 100 symposium.

Throughout the symposia series and in all of the monographs, there has been a bal-

ance of papers devoted to understanding and developing data, comparing mortality results across groups and geographies, mortality modeling and the implications of living longer. The changes for many societies—as people live to higher ages—will be profound, and unprecedented. Life spans are gradually increasing. When the impact of longer life is combined with the impact of changing birth

rates at different times and immigration patterns, many societies will be much older. There will be far more people at older ages and the balance between young and old will change, creating challenges and opportunities for all. This is not limited to the United States and Canada, but is a global issue affecting many developed countries around the world.

A large word cloud in the shape of a staircase, composed of various question words. The words are arranged in a descending staircase pattern from top-left to bottom-right. The words include: when, why, what, how, who, which, where, and how. The words are in various sizes and colors, including shades of blue, green, and yellow. The word 'when' is the largest and most prominent at the top of the staircase. Other large words include 'why', 'what', 'who', and 'how'. The words are scattered throughout the staircase shape, with some appearing multiple times.

A smaller word cloud in the shape of a heart, composed of various question words. The words are arranged in a heart shape, with the largest words in the center. The words include: when, why, what, how, who, which, where, and how. The words are in various sizes and colors, including shades of blue, green, and yellow. The word 'when' is the largest and most prominent in the center. Other large words include 'why', 'what', 'who', and 'how'. The words are scattered throughout the heart shape, with some appearing multiple times.

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WHO IS AFFECTED BY THESE CHANGES AND HOW?

Virtually everyone in the affected societies will be impacted, including governments and taxpayers, business—both as provider of services and as an employer—families and individuals, and health care structures. Some of the key changes will include:

- The fabric and make up of communities will change.
- The demand for health care will increase and the need for long-term care services will increase even more.
- People will need to work to higher ages, and employers will need to change their practices to help facilitate this.
- Public budgets will be stressed by the needs for health care and other services to support the very old.
- Personal financial planning and management will be required to reflect the changes in life spans and needs.

This article looks at issues by stakeholder, points to some of the papers presented at the 2011 Living to 100 Symposium, and leaves us with ideas about some of the big questions facing society.

IMPLICATIONS FOR THE PUBLIC AT LARGE

Key areas of focus for the public at large are the health care system and social insurance programs. These systems are stressed in many countries. Health care issues include the availability of services, costs and standards for delivering health care. The Living to 100 panel, “Will There Be Enough Doctors, Nurses and Hospitals for our Aging Population?” offered insights into this vital question. The discussion focused on the increasing health care needs in developed countries as populations age, the situation in several

different countries, and the challenges related to the training of medical professionals.

A paper by N.V. Subramanyan, “A Study of the Emerging Health Conditions among the Aged in India and the Sufficiency of Medical Framework and Health Insurance,” provided a view from a developing country. Subramanyan studies the current inadequacy of a health care infrastructure in India. As India gradually shifts from an agrarian economy to an industrialized economy, there has been an increased prevalence of diabetes mellitus and cardiovascular disease among both the elderly and nonelderly populations. Besides meeting the health care demands of an increasing number of elderly, India must also meet the needs of the large nonelderly population which has increased at a greater pace than the elderly. The paper examines some of the government and private measures for solving the problem among the elderly and others and identifies opportunities for insurers to address the situation.

As with most of the issues related to population aging, there are areas of similar concern but they are addressed differently. Social insurance programs are a major area of focus, and the key issues include level of benefits, under what conditions they are paid, and how they are financed. The 2011 Living to 100 Symposium (and previous Living to 100 programs as well) were very fortunate to have participation from the senior actuaries of important social insurance systems. At the 2011 Living to 100 conference, there were presentations focusing on the mortality projection

methods and the results they produced for social security systems in the United States, Canada and Denmark.

As these social security presentations showed, mortality changes are a key contributor to changing costs and actuarial balance in the systems. To better understand mortality trends, papers were also presented comparing mortality of various countries such as the United States, Canada and the United Kingdom.

Long-term care is a major issue moving forward, and many countries that have well-developed social benefit systems lack widespread systems for financing long-term care. Long-term care is often provided by families, but family support is less likely to be available in the future. Private insurance is used in the United States, but relatively few people have purchased it. Medicaid, a public system for those with virtually no assets and limited income, finances nearly half of long-term care in the United States. Social benefits cover long-term care needs in other countries. Doug Andrews, FSA, FCIA, presented the paper, “Is Long-Term Care Social Insurance Affordable in Developed Countries?” He raises key questions about options and public vs. private systems. Andrews concludes that aspects of the long-term care risk are better managed through social insurance programs rather than private insurance. He also raises the questions of whether such social insurance is affordable, looks at the different solutions and approaches taken in Canada, Germany, Japan, the United Kingdom, and the United States, and concludes that it is. He

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also discusses changes in patterns of care and social structures including the potential for more care in the home, and innovative integrated senior communities. He prefers mandatory social insurance vs. voluntary private insurance since the risk is so important and affects so many people. He also points out that voluntary insurance has low take-up rates and challenges related to selection.

The provision and financing of long-term care is a major area for change, in the United States and internationally. Other papers provide insights into long-term care issues, and the SOA's Long-Term Care Insurance Section provides ongoing examination of the challenges related to long-term care provision and financing. The resources from Living to 100 help us focus on some of the questions:

- Will there be an organized system to finance long-term care and what will it be?
- What will be the role of the public vs. the private sector?
- How much should younger people be called on to support the older population?
- What is the right way to deliver care?

Population aging will make it important that these issues be addressed in many different countries, and that solutions work for people in a range of circumstances.

One of the biggest societal issues related to population aging is the appropriate retirement age and accommodating new and different patterns of retirement. Increasingly, some sort of work on a more limited basis is part of retirement. The panel, "The New Retirement: Phased Retirement and Phases of Retirement—Adapting to Longer Lives and Different Support Systems," was moderated by Robert Powell, editor of *Retirement Weekly*. The three panelists were

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the societal issues vary by group. People concerned about Social Security change have also focused on this issue,

all experts on retirement and phased retirees. Each had left a full-time job and was combining a limited work schedule in a different way with doing more of what they wanted to do. They discussed the challenges and opportunities presented by moving gradually into retirement. Institutional supports are limited and individuals often need to find their own way. For many people, capabilities during retirement change, and adapting later on to re-

THERE ARE MANY OPPORTUNITIES TO PROVIDE SERVICES TO AN AGING POPULATION.

duced capabilities is a key part of the overall retirement picture. The SOA research report on the "Phases of Retirement" offers insight into that matter.

An issue that came up several times during the 2011 Living to 100 Symposium—and seemed to be a new area of focus—was the disparities and differences in mortality experience by ethnic group. This was particularly interesting to me since the 2010 ERISA Advisory Council to the U.S. Department of Labor focused on gender and racial disparities as one of its three study topics. Jay Olshansky reported on research undertaken for the MacArthur Foundation that shows extremely large disparities by racial and economic groups, pointing out that

the societal issues vary by group. People concerned about Social Security change have also focused on this issue, pointing out that black males have a much lower life expectancy than white males. Other papers presented at the conference such as the one by Rob Brown, FSA, FCIA, ACAS, HonFIA, and Steven Prus, Ph.D., also examined racial differences. In the United States, insurance companies and employee benefit plans are

not allowed to discriminate by race and do not keep data by race, but this is an issue of increasing social concern.

IMPLICATIONS FOR BUSINESS

For some businesses, such as health care, financial services, housing, and travel, for example, the aging society will have a significant impact on their customer base and the products and services they provide. There

are many opportunities to provide services to an aging population. These business implications are beyond the scope of the Living to 100 initiative, but actuaries can be of assistance to businesses as they seek to understand these implications.

Nearly all businesses are affected as employers by the aging society. Those offering retirement benefits and longer term employment are particularly affected. A paper by Mary Nell Billings and me focuses on the implications for business resulting from people living longer. Some of the key issues to be considered include implications for the workforce, the need to develop better approaches and work options for working with older workers, raising retirement ages, helping employees deal with individual responsibility and retirement needs, and rising health care costs.

Other papers focus on the retirement system, such as the one from FSA Beverly Orth titled, "How to Survive Living to 100: Ways to Improve the U.S. Retirement System." Other papers focused on the retirement system in Japan and Canada.

The symposium did not include much focus on the implications for financial service companies, but indeed there are many. Annuity products will become more costly as people live longer, and appropriate projected mortality tables are needed for pricing and reserving. One of the sessions at the 2011 Living to 100 Symposium focused

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on a comparison of annuity mortality between the United Kingdom, Canada and the United States. Another paper, "Mortality Improvement in the USA: Analysis, Projections and Extreme," by Joseph Lu, member of the Institute of Actuaries, and Wun Wong, Ph.D., compared Scale AA from the 1994 Group Annuity Mortality Table to historical and future U.S. population mortality trends. The analysis raised questions about the adequacy of Scale AA for the use in the valuation of annuity liabilities. Long-term care is a risk that is not planned for well. One of the big questions is whether the financing should be through private insurance or government programs. Combination long-term care/annuity products should have a lot of potential for the future.

One of the product ideas that has not had much acceptance to date is the reverse mortgage. Conceptually this is an appealing idea, but the implementations have been relatively expensive. This may be an area for future product development.

Within the financial services industry, mortality is a particularly big concern for reinsurers. Further understanding of its future, as well as its implications, will help them better manage their existing longevity risks and also lead to more innovative products for financial services companies and customers.

IMPLICATIONS FOR INDIVIDUALS

With the decline in defined-benefit plans, individuals are increasingly responsible for their own old age security. SOA research has documented that there are many gaps in what people know about the post retirement period. Many of those who live to very long ages are women, so the challenges of high age are often the challenges of women. My paper, "Living to 100—Risk Management Issues for Individuals with Special Emphasis for Women," provides a broad overview of many of the challenges. It includes a variety of data on what changes with increasing age, builds on SOA research on the post retirement period and includes recommendations for the future.

WHAT ARE THE BIG QUESTIONS FOR SOCIETY?

There are a number of important societal questions, and the answers will vary by country. Many will not be known for quite a while:

- What will the age distribution of our population be and how is it changing?
- Will people be healthy longer as they live longer? What can be done to improve health?
- When is it reasonable for people to retire? What do we mean by retirement?
- How will we provide and pay for health and long-term care?
- What benefits should be provided through social programs? Employers? As an individual responsibility?
- What financial products will support the aging society?

WHAT DOES THIS MEAN TO ACTUARIES?

Social change related to population aging will affect many stakeholders within developed countries, and in some other countries. Prod-

ucts, services, individual planning, and social programs will need to adapt to meet changing needs. Projections of the population change, together with quantitative analysis and modeling of the impacts of the changes, will be important in defining new directions. Actuaries have much to do within their traditional roles to address the issues resulting from aging populations, and in addition, there is much potential for actuaries to work with new stakeholders on new problems.

Within traditional roles, there should continue to be a lot of work and areas for innovation in health and long-term care systems, as well as retirement financing. While much of this work will be in the financial services and health care sectors, new players and patterns of risk sharing may emerge. Population aging will affect virtually all governments and a great many businesses. Demographics will be an increasingly important issue in overall social planning. The insights that actuaries have may enable them to work with these entities to address different challenges and broader issues including longer term planning.

CLOSING THOUGHTS

Change as a result of increasing life spans is already underway and will continue. This article just begins to touch the surface on the many issues resulting from increasing aging populations. For a more in-depth account of some of these implications, I encourage you to read the papers presented at the 2011 Living to 100 Symposium published in a monograph available at www.soa.org/livingto100monographs as well as <http://livingto100.soa.org>.

Clearly, much remains to be done in addressing the needs and challenges of an aging society. This is a great opportunity for the actuarial profession to be part of the solution. ▣

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