



**SOCIETY OF
ACTUARIES**

Article from

In The Public Interest

January 2018

Issue 16

Long Life Can Have a Big Effect on Public Finance

By Anna M. Rappaport

The Society of Actuaries has sponsored a research program “Living to 100 and Beyond” for the last 15 years. These programs have been a place for new ideas, exchange of information, discussion of controversies, learning how other disciplines view related issues and identifying points of agreement and disagreement. The cumulative program output since 2002 includes more than 150 scientific papers, a number of presentations and panel discussions and six symposia. The symposia every three years bring together a diverse group of experts with different perspectives on the need to understand changing life spans and strategies to adapt to longer life spans. This article offers some of my perspectives on the 2017 symposium and the effort overall.

BIG IDEAS—BIOLOGY

A focus on biology has been a regular part of Living to 100. In 2017, there were two major presentations highlighting developments in biological and medical research. Videotapes of both presentations are included in the monograph. They are of interest for many areas of public policy. The overlapping content in those two presentations was that there is a biological aging process that is related to the development of many different diseases. If that aging process can be stopped or slowed down, it would have a major impact on many different diseases and potentially extend the period that people are able to be healthy, but without much impact on total life spans.

Nir Barzilai is Professor of Medicine and Genetics at the Albert Einstein College of Medicine at Yeshiva University and director of the Institute for Aging Research. His presentation was titled “How to Die Young at a Very Old Age.” He is conducting research on centenarians, and searching for a drug that can intervene in the aging process. He is actively involved in promoting a large research project “TAME: Targeting Aging with Metformin.” The hope is that the study will demonstrate that Metformin can target multiple morbidities of aging, and that it will then be approved for use on a widespread basis. The study also has goals to provide a different paradigm for studying next generation drugs that target multiple morbidities of aging, and to apply the studies of science as powerful new tools to achieve primary prevention of multiple diseases. If the associated



researchers achieve the hoped-for results, this work could help in extending healthy life expectancy and lead to major reductions in medical costs. It could also change the way medicine is practiced to focus less on specific diseases and much more on the total person and on cross disease prevention. (In addition to the monograph, you can learn more about his research at <https://www.einstein.yu.edu/centers/aging/longevity-genes-project/>)

Judith Campisi is an internationally recognized biochemist at the Buck Institute for Research on Aging. She has made contributions to understanding why age is the largest single risk factor for developing a variety of diseases including cancer. She explained cellular processes and senescent cells—older cells that have stopped dividing—and how they contribute to disease and the aging process. Senescence occurs when cells experience certain types of stress, especially stress that can damage the genome. The senescent cells help prevent cancer by blocking damaged cells from multiplying. But there is a trade off—the lingering senescent cells may also cause harm to the body. Her research group found evidence that senescent cells can disrupt normal tissue functions and, ironically, drive the progression of cancer over time. Senescent cells also promote inflammation, which is a common feature of all major age-related diseases. Her research is shedding light on anti-cancer genes, DNA repair mechanisms that promote longevity, molecular pathways that

protect cells against stress, and stem cells and their role in aging and age-related disease. Her research integrates the genetic, environmental and evolutionary forces that result in aging and age-related diseases, and identifies pathways that can be modified to mitigate basic aging processes. She is collaborating with many other research groups on similar issues. Her research and related work has the potential to make major changes in the way aging and disease are viewed. (For more information about her work, see <http://www.buckinstitute.org/campisiLab>)

Together, these two presentations left me with the idea that there are potentially major changes in the way we view aging and deal with the diseases of aging that can lead to very modest changes in life expectancy with a big reduction in the number of “sick” years at the end of life. That would be great news. Jay Olshansky, in the final panel at Living to 100 focused on the future and suggested that as one scenario. He also suggested additional scenarios, and this discussion is very important to public policy. The final panel is General Session VI and a transcript is included in the monograph.

BIG IDEAS—A FOCUS ON PEOPLE: LIVING WELL IN GOOD COMMUNITIES

There were different discussions of the human aspect of aging, a new focus for Living to 100. Steve Vernon presented the Stanford Center on Longevity’s “Sightlines Project” which defines three major domains for living well to old ages: financial stability, health and social engagement. The formal recognition of social engagement is new for many people. This project includes indicators of how well we are doing in these domains and recommendations for improvement. Social engagement was a new area of emphasis for Living to 100. The Society of Actuaries is a sponsor and supporter of the “Sightlines Project.” At the same session, Cynthia Hutchins, director of Business Gerontology from Bank of America Merrill Lynch, provided insight about the need to plan for seven life priorities: health, home, family, leisure, giving, work and finance. Both of these discussions provide strong messages that planning for money and health is not enough. A transcript of this session (General Session II) is included in the monograph.

Phyllis Mitzen in “The Changing Face of Eldercare” presentation focused on big ideas: making communities friendly to an aging population, and on steps that support people staying in the community longer. A transcript of this presentation is shown in the monograph as Session 6B. The World Health Organization has established a program of age-friendly communities and a process to help communities become more age-friendly. The eight domains of an age-friendly community are community and health care, transportation, housing, outdoor space and buildings, social participation, respect and social inclusion, civic participation and employment, and communication and information. She said that there are 332 age-friendly cities today in

36 countries. The AARP is the U.S. Affiliate of this network. The AARP program focuses on safe walk-able streets, age-friendly housing and transportation options, access to needed services and opportunities for residents of all ages to participate in community life. Age-friendly communities do not replace the need for senior housing and nursing homes, but they give people new options and may make it feasible for them to stay in the community longer.

Phyllis Mitzen also focused on the “Village” movement, or the formation of neighborhood-based groups for seniors that support people aging in the community. Such organizations are heavily based on volunteerism and people helping each other. The first village was formed in Boston in the Beacon Hill neighborhood in 2002. Mitzen founded and chairs Skyline Village in Chicago. <http://www.skylinevillagechicago.org>. My view is that villages are very helpful and can supplement and take the place of extended family for seniors who need to be part of a support network where they live. To learn more about the village movement, see http://www.vtvnetwork.org/content.aspx?page_id=0&club_id=691012.

MORTALITY IMPROVEMENT: A MAJOR CONCERN

Actuaries establish prices and calculate reserves for financial products and programs. Rates of mortality improvement are important in these financial calculations. Different mortality tables are used for different programs based on the populations covered.

Living to 100 was started around the year 2000 because of the difficulty in finding reliable data at very high ages and the added difficulty of projecting change. In 2017, the Social Security actuaries from the U.S., U.K. and Canada again compared mortality and projection methodology. All agreed that mortality improvements at the high ages are slowing compared to the last 25 years. Canadian mortality continues to be significantly lower than U.S. mortality. The U.S. has a shorter life expectancy than many countries. A video of this presentation (General Session IV) is included in the monograph. In addition to the discussion by the Social Security actuaries of what they do, Larry Pinzur presented a session on mortality improvement approaches. Recent retirement plans experience committee work blends

Age-friendly communities do not replace the need for senior housing and nursing homes, but they give people new options. ...

near term mortality improvement based on recent experience with longer-term mortality improvement based on expert opinion. Social Security considers cause of death analysis in setting improvements. A transcript of this session, Session 6A, is in the monograph.

For me, it was very interesting that there did not seem to be any major disagreements about future mortality improvement. This was in sharp contrast to some of the earlier conferences which indicated much more divergent opinions. Many of the papers deal with mortality improvement and modeling. I do not know whether the absence of sharp disagreement was a reflection of the attendee mix or whether it reflects greater consensus about assumptions.

PUBLIC POLICY ISSUES

Population aging is changing the fabric of our societies, and affects many areas of policy. A transcript of this session (Session IC) is in the monograph. David Sinclair, director of the International Longevity Center in the U.K., provided insight into several big policy challenges in the U.K. They were addressing issues such as the cost of aging, saving more, providing an adequate workforce, getting older people to spend more, delivering health and care (which we would call long-term care or long-term services and supports), maximizing the opportunity of technology, and responding to the issues surrounding housing wealth. In my view, there is a major overlap with big underlying issues in the U.S.

Rob Brown, retired professor from the University of Waterloo, provided insight into issues getting recent attention in Canada. Social security benefits have recently been increased and after an attempt to raise retirement ages, the legislation was reversed. The majority of the public does not have employer sponsored benefits. There are challenges in funding health care, and in the provision of health and long-term care. Canada seems to be going in a different direction than many countries, and it is maintaining and improving social benefits.

An international issue that concerns me greatly is the ever-increasing length of retirement and the failure of policymakers to address it.

John Cutler, an attorney and senior fellow at the National Academy of Social Insurance, pointed to the huge uncertainty in the U.S. linked to the Trump election. The Federal government plays a huge role in health care and it is completely unclear how that role may change going forward. Proposals to modify that role are a high priority in the new administration, but there is no consensus about the replacement programs. Less visible, but also very important, is the need to bring Social Security into financial balance, and some pension issues. As of September 2017, there has been a lot of discussion, but no action on health care.

Even though aging affects many areas of life, there is no integrated focus on aging. Phyllis Mitzen, in “The Changing Face of Eldercare” session, shared points made in a letter from the SCAN Foundation to President-elect Donald Trump. They requested that he:

- Name and give authority to a national leader who will build solutions for older Americans across all domestic policy areas.
- Protect older Americans and their families from financial bankruptcy when long-term care needs strike.
- Modernize Medicare to pay for team-based, organized care to get more value for older Americans with complex care needs.
- Accelerate federal and state efforts to integrate Medicare and Medicaid.
- Build new ways to measure health care quality based on what older Americans want.

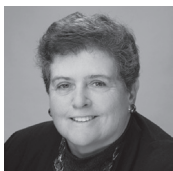
While this does not seem likely, it provides some ideas about changes that would be very positive if they were feasible.

My view is that there are many similarities between demographics and the big issues facing our countries as we deal with population aging, but our solutions vary. Sharing of information is very valuable. An international issue that concerns me greatly is the ever-increasing length of retirement and the failure of policymakers to address it.

CONCLUSION

For me, it has been a great privilege to participate in Living to 100 as a member of the planning committee, as a paper writer, and as a presenter. If I think about the large and complex variety of issues that we are dealing with as society ages as a mosaic,

each of us has knowledge and perspectives that fill in some of the tiles. For each of us, they are different. At Living to 100, I am able to fill in more tiles and to have contact with people whose knowledge is in very different parts of the total space. That helps me deepen my understanding in the areas where I concentrate and change my perspective. I hope that many of you will watch the videos, read the papers, transcripts and the overview paper, and that you will participate in the next rounds of Living to 100. Thank you to the Society of Actuaries for this effort. ■



Anna Rappaport, FSA, MAAA, is a phased retiree and a consultant with Anna Rappaport Consulting. She can be reached at anna.rappaport@gmail.com.

ACCESSING INFORMATION ABOUT LIVING TO 100:

For each of the six symposia there is a monograph on the Living to 100 website at <https://livingto100.soa.org>. The 2017 monograph including the new papers can be found at <https://www.soa.org/Library/Monographs/Life/Living-To-100/2017/table-of-contents.aspx>. All of the papers from 2002 to 2014 and the findings are summarized in a report prepared by Ernst and Young. This report is split between technical issues and implications, and can be found at <https://www.soa.org/Research/Research-Projects/Life-Insurance/soa-living-100.aspx>. The report also highlights areas of agreement and differences and it includes abstracts for all of the published papers in an Appendix.