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LIVING TO 100 AND BEYOND: A RETIREMENT ISSUE

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Introduction

Late last year, in the weeks leading up to the 2008 Living to 100 and Beyond Symposium, I casually mentioned my pending trip to Orlando to attend the symposium to a number of my friends. Besides their feigned expressions of sympathy for my brief reprieve from the brutal Chicago winter cold, I was startled by an almost universal reaction. It seems everyone had a story about a grandparent, uncle, aunt, cousin, or in-law either in their late 90s or even past the century mark. Indeed, each new anecdote I heard seemed more fascinating than the previous one, describing lives not only still filled with favorite activities but even a few late life romance stories thrown into the mix.

Listening to these stories made me question in my actuarial thinking mode whether I might have simply been talking to an unrepresentative sample. Were these anecdotes truly indicative of where life expectancy is headed? Or, do I just happen to be traveling in a circle of friends with a particularly good gene pool? These nagging questions further whipped up my anticipation for the symposium and the opportunity to once again interact with some of the leading thinkers in this area. After spending three beautiful days in Orlando, I am pleased to report that the 2008 symposium not only did not disappoint, but, without a doubt, has continued to build on the success of the previous symposia in the series.

As with the two previous symposia, the 2008 symposium gathered together a diverse range of professionals, scientists and academics, in an interactive, multidisciplinary forum for three days of highly engaging sessions. As a matter of fact, the strength of this year's program and the organizational leadership provided by the SOA, led Event Co-Chair Bob Johansen to remark, "...the symposium has achieved a position of international prestige among not only actuaries, but also demographers, gerontologists, government offices and others concerned with increasing longevity, its implications for the future and possible solutions." And to further confirm Johansen's observation, the symposium organizers were gratified to receive overwhelmingly positive feedback from the attendees.

Significant Issues for the Elderly and for Retirement Systems

While the success of the symposium is a cause for celebration, many of the sessions over the three day event conveyed a more serious tone and highlighted growing challenges for the elderly in the face of increasing longevity. Of particular interest to retirement actuaries, such challenges clearly have direct impact on the retirement systems of North America and across the globe. Among the issues discussed, highlights from research by

Members of Pension Section Council are available to explain the Retirement 20/20 initiative to your local actuarial club or any other interested group. If you'd like to arrange for a presentation - either in person or via Web cast - please contact Ann Gineo at agineo@segalco.com. Ann is a member of Pension Section Council and leader of the Retirement 20/20 Communication and Outreach subgroup.

the Society of Actuaries and other sources revealed that many workers and retirees do not plan long term, and there are significant gaps in knowledge on planning for post-retirement risks as well as on the risks themselves. Furthermore, the research highlighted that the less than optimal strategy of reducing spending remains the favored method of dealing with post-retirement risk, rather than through financial protection products. At the same time—as pension professionals are well aware—employers have reduced their commitment to traditional pensions that provide lifetime income, forcing individuals to become increasingly responsible for managing their own retirement funds and making them last longer. Taken together, this information points to a need for products that can help retirees cope with impending risks that come along with greater longevity and increased individual financial responsibility. Among these needs and risks are:

- Guaranteeing sufficient investment returns on retirement assets
- Converting retirement assets into guaranteed lifetime income
- Funding the costs of long-term care
- Supplementing Medicare coverage
- Protecting a surviving spouse through provision of regular and sufficient income
- Converting home equity into retirement income through products such as reverse mortgages
- Managing retirement assets in the event of diminishing mental and physical capabilities through Alzheimer's and other health conditions.

The Future of Survival

Besides discussions of the financial impact to the elderly as a result of increased longevity and extended periods of retirement, a primary objective of the Living to 100 series is to showcase the latest in thinking on the science of aging. The 2008 symposium led off with a spellbinding presentation by Dr. Cynthia Kenyon on her work with the *C. elegans* worm and the consequences of dietary restrictions on longevity. Through genetic manipulation, the normal two week lifespan of the worm has been extended to four weeks or as Bruce Schobel, SOA President, aptly put it in his introduction of Kenyon, "Four weeks has become the new two weeks." Kenyon also raised a number of social and economic implications that would need to be addressed if such dramatic extension of longevity could be applied to humans.

While Kenyon's work focused on genetic manipulation as a way of impacting longevity, Dr. Leonard Hayflick, in a later session at the symposium, provided an alternative viewpoint on how this type of manipulation may affect the aging process in humans and its ultimate applicability—or, more accurately, inapplicability. Related to this, Hayflick further discussed a number of theories on the distinction between the biology of aging, the aging process and age related diseases. Kenyon and Hayflick's differing perspectives on the biological questions related to aging reinforced to attendees the complexity of the issues as well as the diversity of opinion in the scientific community— clearly, this was one of the major takeaways of the symposium. Further discussion by the organizing committee after the symposium highlighted the need to understand and think about the range of different opinions on aging, and the related challenges in deciding how retirement practice actuaries can make use of this information for more accurate funding methodologies, valuation techniques, system design, and contractual provisions.

Measuring and Projecting Improved Survival

The challenges of measuring high age mortality and the difficulty in securing reliable data to do so were important motivators for the first Living to 100 Symposium. These challenges persist.

In this regard, Dr. Jean-Marie Robine, a demographer and gerontologist who is probably best known as the co-validator of the oldest verified supercentenarian of all time, discussed the concept of the compression of mortality and morbidity. This phenomenon can be observed when the shape of recent mortality and morbidity curves are compared to curves from a hundred years ago. When viewed side by side, it appears that the curves have moved towards a rectangular pattern over time. This movement or apparent compression is sometimes referred to as “squaring of the curve.” The implication of this trend is that increasing numbers of persons born in the same year are living similar lifespans, further implying the potential for a fixed maximum lifespan. Robine concluded that there is probably a limit to the ultimate amount of this compression, and further conjectured on alternative patterns of mortality that may emerge. In either case, questions remain as to whether or not a fixed maximum lifespan exists when viewed from the lens of mortality trends.

To truly gauge mortality trends, it is vital to measure mortality levels on a precise and consistent basis. Given the fundamental importance that measurement represents for all aspects of the study of longevity, the symposium included presentations from several of the world's leading thinkers in this area. Included among the topics discussed in the sessions on mortality measurement were data validation techniques and integrity checks. As in many other disciplines, data is the fundamental building block and foundation for new breakthroughs.

The measurement of mortality also bears directly on the projection of future mortality levels. The need for mortality level projections that are thoughtfully developed cannot be overstated for many of society's key financial security systems. For instance, government social security systems around the world depend on solid mortality projections for planning purposes to ensure long-term fiscal soundness. In recognition of this, an enlightening session was held at the symposium with prominent actuaries from social security governmental agencies in the United States, United Kingdom and Canada, presenting their most recent mortality projections and methodologies. It was readily apparent from this session that these countries are contending with many of the same longevity issues that may ultimately challenge the long-term solvency of their public programs.

Interesting Material for Retirement Actuaries

Over 30 papers were presented at the symposium in addition to several panel discussions. While all papers are worth taking the time to read, the list below highlights papers and session material that may be of special interest to readers with a retirement systems background:

- Leonard Hayflick's "Entropy Explains Aging, Genetic Determinism Explains Longevity, and Undefined Terminology Explains Misunderstanding Both" which discusses the theory of aging.
- Papers presented in the session titled "Social Insurance Perspectives and Implications." These papers describe Social Security mortality projections for the United States, Canada and the United Kingdom.
- Papers discussed in the session titled "Longevity Risk Pricing."
- Eric Stallard's "Estimates of the Incidence, Prevalence, Intensity and Cost of Chronic Disability among the Elderly" provides an insightful view into expected periods of retirement in various states

of health.

- “Living to 100 and Beyond in Canada with Dignity” by Doug Andrews discusses issues of improving the lives of the elderly.
- Brian Burnell’s “Retirement and Retirement Ages in Canada Revisited” explores the changing concept of retirement.
- “Micro Pension Plan: Indian Perspective” by Prakash Bhattacharya describes pension issues that are a by-product of the economy in India.
- “Economic Sustainability of Retirement Pensions in Mexico: Is There a Link with the Mexican-Origin Population in the United States?” by Roberto Ham-Chande
- Anna Rappaport’s “Living to 100—A Woman’s Issue” focuses on longevity issues of special relevance to women.
- Mike Cowell’s “Health, Wealth and Wisdom—Living Long, Living Well” enlightens readers with an actuarial perspective on health and aging.
- Material from the session “Implications of Longer Life Spans: What Does this All Mean to Us?” which describes the impact of increased longevity on a variety of financial systems and stakeholders.
- Beverly Orth’s “Evaluation of Approaches to Reducing Women’s Longevity Risk” focuses on several alternatives for providing lifetime income.

Accessing the Information

Complete versions of the papers and material described above as well as others produced for the symposium are available in an online monograph on the SOA’s Web site at www.soa.org/livingto100monographs. Readers may also be interested in viewing the monographs from the 2005 and 2002 events, also available on the SOA’s Web site.

Related Material on Post-retirement Risk Research

Those interested in the research presented at the Living to 100 Symposium on the risks of aging and its implications may wish to read further about related work the Society of Actuaries has completed. A substantial number of research studies have been conducted to gauge what the public knows about post-retirement risks and how they expect to manage these risks, as well as a number of other aspects relating to these risks. The findings from this research reveal gaps in the public’s knowledge of these risks and present opportunities for improvement through products and education. The research can be found on the SOA Web page at <http://www.soa.org/research/pension/research-post-retirement-needs-and-risks.aspx>. The Web page includes findings from a series of surveys conducted in 2001, 2003, 2005 and 2007 on awareness of post-retirement risks as well as results from several focus groups organized to study how the public expects to manage assets post-retirement. Many of the findings from studies appearing on this Web page were presented at the symposium and these studies provide a worthy supplement to the Living to 100 material.

Final Acknowledgement and Thanks

The symposium organizers, through me, wish to thank the Pension Section for being one of the event co-sponsors. It was truly gratifying to see retirement actuaries attending the event and providing important contributions to its success. In this regard, the organizers would value any comments or suggestions for making future Living to 100 events as worthwhile as possible for retirement actuaries and others. Please feel free to contact me with your thoughts.

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