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Diverse Perspectives on the 2017 Living to 100 and Beyond Symposium

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INTRODUCTION

Living to 100 and Beyond is a multidisciplinary symposium that provides insights into changing life spans, the underlying societal forces that drive such changes and that may lead to future changes, and on societal responses to changing life spans. The symposia have an international focus and include an emphasis on understanding mortality change and measurement, financial security, and a variety of other issues. This is a compilation of several interviews with people who came to the 2017 Living to 100 and Beyond Symposium with different backgrounds and lenses. The interviews focus on their impressions and issues important to the general topic.

AN ADVISER'S PERSPECTIVE ON THE LIVING TO 100 AND BEYOND SYMPOSIUM: BETH PICKENPAUGH

Beth Pickenpaugh is a certified financial planner and actuary located in Chattanooga, Tennessee. She has attended two Living to 100 Symposia. She serves on the Society of Actuaries (SOA) Committee on Post-Retirement Needs and Risks.

Can you tell us a little about yourself and the work that you do? Do you have any particular areas of specialty with regard to the types of issues you advise clients on?

I bring a number of different disciplines to my practice of financial planning. In addition to being an actuary, I have a graduate degree in math and operations research, the study of optimizing outcomes with scarce resources. My credentials and experience also include divorce financial settlement analysis as well as counseling on the ongoing financial issues that divorced individuals face. I love the personal nature of financial planning—how what we learn affects the quality of life of the end user. In theory I deal with making sure that their resources are properly invested to match their liabilities and that their risks are covered. In practice, I must be able to counsel on an ever-broadening spectrum of disciplines.

Please share with us two or three things you heard at Living to 100 that you found to be particularly interesting or helpful?

Judith Campisi's talk on "Suppressing Aging and Extending Longevity: Will the Twain Meet?" was an excellent example of the quality of speakers this symposium attracts. She took a fascinating subject that is normally beyond the reach of those outside her field and made it accessible. It takes a very special person at the edge of their field to make the complex digestible like that. I find that to be a quality that many of the general session speakers possess. At the end of her talk I grasped the biology behind the research of how health span might be increased, but not necessarily maximum life span. Also in her session, she skillfully illustrated that beating cancer will take either changing the environment in the body so that it does not have a chance to grow, or interfering with the mutations of cells. Getting a peek into the edges of research is fascinating with important financial consequences for those who may see less disability than their ancestors.

I find the life expectancy and maximum longevity discussions that permeate the sessions to be helpful as a planner. I am especially interested in how the survival curves are changing and why. I found it particularly fascinating that lack of social engagement carries the same mortality risk factors as obesity and smoking.

What things did you find to be surprising?

I found it both surprising and encouraging that there is research that indicates a likely hope for changing the way we age and shortening the period of disability in our lives (General Session I, Nir Barzilai). The financial implications for the delay of diabetes, cardiovascular disease, cancer and cognitive decline are far-reaching not just in types but in patterns of expenses over time. This could change the types and characteristics of risks we look to address as financial planners. This increase in healthy years also will allow more workers to remain in the workforce longer, one of the best ways to increase retirement financial wellness.

Were any of the findings disturbing?

If we fail to address the aging process but continue to address other causes of death such as heart disease and cancer, it was proposed that Alzheimer's likely will be more widespread and last longer, taking an even greater toll on the resources available at the end of life. This could have devastating financial consequences both individually and to society as a whole. Even if there are assets saved and insurance purchased, the current types of long-term care insurance only cover a few years of care and do not help if care needs persist. Assets would need to be spent down until one qualifies for Medicaid, leaving a potential spouse or loved one even more financially at risk for their own needs. (This was brought home by Jay Olshansky in the final panel



discussion, but was touched on in many other talks throughout the symposium.)

What did you enjoy the most?

What I enjoy the most about attending the Living to 100 Symposium is the vast global brain trust of the people who attend from a wide range of disciplines. It is unquantifiable to me to be able to talk to the leaders in their fields and to decision-makers in government and private sectors, and to be able to have difficult subjects presented by those who can make them comprehensible. It is obvious that these are people who share a passion for improving the quality of life in later years.

Do you feel that other financial advisers would benefit from coming to future Living to 100 sessions? Why?

As financial advisers, we deal with very diverse aspects of our clients' financial lives in making recommendations about income streams, savings, investments, insurance, and so on. Our expectations about life and health spans can affect those recommendations significantly. The information from the experts at this symposium is a good start to help us recognize the areas that we may need to understand more fully. I walk away with books recommended by experts in their fields, websites that are indispensable and expert contacts to reference when questions arise.

You mentioned that you do quite a lot of reading on aging. Can you share with us two or three books or articles that you would recommend and why?

In *The Upside of Aging: How Long Life is Changing the World of Health, Work, Innovation, Policy, and Purpose*, Paul Irving, president of the Milken Institute (an independent economic think tank whose mission is to improve the lives and economic conditions of people in the United States and around the world), compiled articles written by leading thinkers on the opportunities

inherent in our aging society. This book is filled with research and ideas from leaders of many disciplines related to aging.

Laura Carstensen, Ph.D., director of the Stanford Center of Longevity, wrote *A Long Bright Future: An Action Plan for a Lifetime of Happiness, Health, and Financial Security*. Carstensen is a psychologist and writes this book to answer the question of how we can make the most out of the added years of life. She suggests that we design a new way of thinking about the rhythms of life that includes a longer youth, a break at mid-life to reposition and working into our 70s or 80s. She makes a great case and educates the reader along the way.

Why Zebras Don't Get Ulcers was written by Robert Sapolsky, a professor of biology and neurology at Stanford. He has been called one of the best science writers of our times—I would agree. This is an immensely interesting book tying stress to the aging process with useful notes citing many excellent articles and books for further reading.

PERSPECTIVES FROM AN ACTUARY VERY INVOLVED WITH PENSION MORTALITY RESEARCH: LARRY PINZUR

Larry Pinzur spent his career as a pension actuary with Aon Hewitt and is a major contributor to the work of the SOA Retirement Plans Experience Committee.

Can you tell us a little about yourself and the work that you do? What about the work you are doing to help the SOA define mortality standards for pension plans?

I started working as a pension actuary at Hewitt Associates immediately after obtaining my graduate degrees—in statistics and number theory! Thirty-eight years later, I am still employed by Aon Hewitt (but now on a very part-time basis) performing “actuarial R&D” with special emphasis on demographic assumptions.

My past volunteer work with the SOA focused almost exclusively on pension-related mortality and longevity issues. I first joined the Retirement Systems Research Committee just as the RP-2000 Mortality Tables were being finalized. I joined the Retirement Plans Experience Committee (RPEC) in 2009 as replacements for the RP-2000 tables (and projection Scale AA) were being contemplated. Since 2009, I have been actively involved with RPEC's development of the interim mortality projection Scale BB, the RP-2014 pension mortality tables, and mortality projection scales MP-2014, MP-2015 and MP-2016.

For the past few years, I have also been a member of the SOA's Longevity Advisory Group. This volunteering experience has given me the opportunity to broaden my perspective, providing some insight on mortality/longevity applications beyond those that are primarily related to retirement programs.

What are some of the challenges that pension actuaries face as they must consider longevity in their work? How does the SOA work help them?

I realize that this is going to sound a bit tautological, but the biggest longevity-related challenge for pension actuaries is the selection of appropriate sets of mortality assumptions—both base rates *and* a projection scale—that predict with a reasonable degree of accuracy how long covered individuals are going to live! If anything, the selection of an appropriate mortality assumption has been magnified in importance due to the current low interest rate environment and the large number of closed/frozen defined benefit plans.

In addition to their traditional uses in the assessment of the long-term financial viability of pension and other postretirement programs, there has been a growing need for more specialized subpopulation mortality assumptions. Actuaries around the world are involved with very significant longevity de-risking transactions (including complex hedging strategies and various types of group annuity contracts) that require careful analysis of the anticipated mortality experience of specific covered groups.

Increased sponsor emphasis on the adequacy of lifetime income from defined contribution plans has also refocused the pension actuarial community on some key longevity issues. The latest online longevity tools present a range of life span probabilities (not just a single life expectancy value at age 65) that reflect a number of user-specific inputs, such as anticipated retirement age, personal habits (e.g., tobacco usage, overall activity level) and the general health status of the user and others who might rely on the income stream. (I encourage those who haven't tried out the SOA's "Longevity Illustrator" to do so at <http://www.longevityillustrator.org/>.)

How does the Living to 100 Symposium series link to the SOA's activities to support pension and retirement programs?

The Living to 100 Symposia generally include three types of sessions that support the SOA's pension/retirement programs:

1. Those that focus on leading-edge academic research related to the measurement and projection of mortality rates, often with particular emphasis on retirement-aged populations.
2. Discussions addressing the myriad societal issues arising from the aging populations in developed countries around the world; for example, the policy challenges (availability/delivery/cost) of future health care, the need for more comprehensive pre-/post-retirement financial education.
3. Last but certainly not least, presentations made by non-actuaries (demographers, biologists, geneticists and other medical professionals) who provide glimpses into the important research being performed in their respective areas of expertise. This research could have very dramatic implications

for all actuaries (not just pension actuaries) attempting to predict future longevity patterns.

Please share with us two or three things you heard at the 2017 Living to 100 Symposium that you found to be particularly interesting or helpful?

Both of the featured presentations at the 2017 symposium were about the potential to extend human life spans through a suppression of aging—and they were both outstanding. In his talk titled "How to Die Young at a Very Old Age" (General Session I), Dr. Nir Barzilai first described some results of his genetic research on exceptional longevity. But even more impressive was his description of the TAME (Targeting Age with Metformin) project, of which he is one of the prime movers. The underlying hypothesis of this project is that aging is the fundamental mechanism for many diseases, and that metformin (an inexpensive drug that already exists for treating type 2 diabetes) could potentially slow down the normal aging process.

Dr. Judith Campisi's presentation (General Session III) focused on certain biological processes occurring at the end of a cell's life cycle. I was surprised to learn that every cell has one of two possible fates at the end of its "life span"; apoptosis or senescence. Very briefly, apoptosis is the process of programmed cell death, after which the remains of the dead cell get removed. With senescence, on the other hand, the aged cell remains viable and retains the ability to negatively influence neighboring cells through certain secretions. While senescence seems to serve useful functions early in life, the accumulation of senescent cells at advanced ages appears to be detrimental to the health of the organism.

Truly amazing research, with potentially huge implications for future human longevity!

Were any of the findings disturbing?

Among the most disturbing issues discussed at the symposium were those that dealt with the looming tsunami of aging populations around the world and the associated crises that governments face in providing financial security and adequate health care to their citizens. There were also a number of very sobering predictions made about the potential for very dramatic increases in incidence of Alzheimer's cases over the next few decades primarily due to progress made in reducing death rates from other causes.

What did you enjoy the most?

Of course, I really enjoy meeting up with actuaries (not just SOA members—and not just pension actuaries!) who are keenly interested in mortality/longevity issues. But the aspect of the Living to 100 Symposium that makes it truly unique is the opportunity it provides to interact with world-renowned experts who are

conducting leading-edge biological/demographic research on issues that will likely have huge implications not just for actuaries, but for society at large.

Is there anything else you would like to tell us?

A big thanks to the organizers; I'm already looking forward to the 2020 symposium!

A PERSPECTIVE ON "LIVING TO 100" FOCUSED IN IMPROVING THE LIVES OF OLDER PERSONS: PHYLLIS MITZEN

Phyllis Mitzen presented "The Changing Face of Eldercare" at the 2017 Living to 100 Symposium. She has spent her career in the field of aging involved in providing service and working in education, policy and the community to improve the lives of older individuals.

Tell me a little about yourself and the work you do. How does it impact the lives of older Americans?

I have worked in the field of aging since my first job as an activity director in a for-profit nursing home in 1972. That experience, along with my dad's serious chronic illness and untimely death, convinced me that for practical and moral reasons our society must plan for and develop ways for all of us to age with dignity and have a voice in how programs and services should be developed. I went on to receive an AM in Social Service Administration from the University of Chicago. I worked for 20+ years at CJE SeniorLife developing and managing a variety of home- and community-based services. Currently I coordinate the Older Adults Studies Program at SSA/University of Chicago encouraging second-year master's students to specialize in aging. I also consult with Health & Medicine Policy Research Group, a public health think tank focusing on access to health care and long-term care. And I am founding president of Skyline Village Chicago Inc., a grass roots organization that connects older adults with one another to strengthen our social networks, friendships and ability to make choices in how we live.

Share the highlights of your vision for the future of long-term care and health care for America.

I believe that the social determinants of health will become integrated into our concept of what health means. These factors include housing, transportation, socio-economic status, mental health and substance abuse, education, food insecurity, early life, social supports, and stress—particularly caregiver stress. This is already forcing hospitals to reach out into their communities to collaborate with existing organizations and to create programs that focus on prevention of serious health issues that are only exacerbated as we age—obesity, diabetes, heart disease, arthritis and hypertension.

I envision municipalities awakening to the possibilities and challenges posed by their aging citizens. This vision includes

planning and sharing best practices from neighboring communities at home and around the world. A good example of this is Chicago Sister Cities International (CSCI) engaging Shanghai Civil Affairs Bureau in a yearly cultural exchange of ideas on ways we can learn from each other to address planning for our aging populations.

What would you like to see changed from the current state?

I believe that hospitals need to do a lot more to work with public health and with social services agencies as well as government to improve the lives of people. There is clear evidence that social determinants of health have enormous influence on whether a person flourishes or not.

I believe in the right of individuals to have access to health care, which, when received early in life can mitigate many of the problems that people have as they age.

On a policy front I want Medicare to be able to negotiate with pharmacy companies on the cost of drugs. And speaking of drugs, we must address the prescription drug addiction problem that affects people of all ages. Finally, significant resources must be allocated to research on Alzheimer's disease and on research that promotes a healthy life throughout a normal life span.

I believe that communities need to look closely at how they are organized and structured—are streets not only bikable, but walkable? Are buildings accessible? Are older adults at the table when planning for new initiatives that impact their lives? This is particularly true as millennials develop technology for "them" without consulting with and educating both themselves and the older adults.

What factors are most important in giving people a choice about where to age, and what should people know to get help when they need it?

Putting financial security aside for a moment, it is important to educate people to think about their choices and options before they need them, and help them to plan. However, being realistic, most people don't imagine that they will ever need long-term care options, or that they will ever be forced to move from a beloved home where they've lived for decades. There are many more living options available to people now than when I started working in this field 40 years ago, but unfortunately people still allow dread of a nursing home to color their thinking, so who can blame them for putting off planning. I recommend that people take a look at the website www.planyourlifespan.org to get a start on thinking through their options. Things to think about regarding where to live include ease in access to and in the home: Are there stairs? Is lighting good? Is it close to transportation, to shopping, to health care, to open space like parks? There are professionals who can assist in making decisions. Geriatric care

managers can be social workers, nurses or counselors who have been certified through professional associations as having an understanding of aging issues and resources. Elder law attorneys can also be another good source of information.

Are available choices changing and, if so, how?

Choices are changing rapidly. What is not changing is the need for a dedicated workforce trained and sensitive to the needs of older adults. What is changing is the technology that provides access to this workforce, and provides help and reassurance to older adults and their families. Smart homes controlled from smart phones can and will continue to be adapted to the needs of older adults, persons with disabilities and their families. Housing options have also adapted over the years to market demand—for example, assisted living for people who don't need 24-hour nursing care. The “shared economy” will also have a huge impact on how people age—we already see it with Uber and ride-sharing services taking the sting out of giving up your car. I can envision Airbnb morphing into home-sharing options.

The WHO Age Friendly Cities initiative and AARP's Livable Communities focus on better communities for aging persons.

Why are these initiatives important and what can people do to bring them to their communities?

WHO, anticipating the aging of the population throughout the world, created an initiative and a framework for communities to use to evaluate their readiness for the inevitable aging of their citizens. Planning for your community is much like planning for yourself. You may not want to do it, but not planning can lead to unpleasant consequences. For communities, not planning means that people will not have options as they age. Not planning means that a large segment of their neighbors will either retreat or leave. It takes community leaders with vision and citizens willing to roll up their sleeves to develop a plan and to follow through. AARP is the U.S. partner in this initiative and focuses on livable communities for all ages. Its website is filled with resources, and it provides many opportunities for communities to share information with one another about best practices.

What are two or three things you learned at the Living to 100 Symposium that were particularly interesting? Surprising? Disturbing?

First and foremost, I was intrigued with the work being done by Dr. Barzilai and Jay Olshansky to slow the aging process and thereby slowing the disease process. Early in my career I attended a lecture about squaring off the health curve in the second half of life. It appears that Barzilai and Olshansky are focused on the means to do this.

I was struck by the discussion between the United States, Canada and Great Britain and how similar our issues are—not

enough savings, difficulty in figuring out how to pay for “social care” or chronic care, youth resentful that they are paying into a system they feel won't be there for them when they grow old.

What did you enjoy the most?

I was thrilled to have conversations with people who think about aging issues from perspectives entirely different from mine. I was excited to discuss familiar issues such as livable communities, workforce and caregiving, gender and health care with people who thought about these issues through a financial and longevity lens. It was one of the more gratifying and stimulating conferences I have attended.

Are there books or articles that you would recommend that may be useful to actuaries to help them understand the human aspects of aging?

I recommend *Being Mortal* by Atul Gawande to everyone I know. The author is a physician who writes regularly for *The New Yorker*. When his physician father was diagnosed with cancer they both realized that their training had not prepared them as physicians on how to navigate the end of his life. Gawande writes eloquently about how he, as a physician, needed to learn from his patients.

I also recommend Ashton Applewhite's *This Chair Rocks: A Manifesto Against Ageism*. Applewhite writes wittily and passionately about how we can create an age-friendly world, friendly to all ages. One of my favorite quotes from her book is “All aging is ‘successful’—not just the sporty version—otherwise you're dead.”

A REGULATOR'S PERSPECTIVE ON THE LIVING TO 100 AND BEYOND SYMPOSIUM: JOHN ROBINSON

John Robinson is a regulator, and is past president of the International Association of Black Actuaries. He has served on the SOA Board of Directors.

Can you tell us a little about yourself and the work that you do?

I spent 23 years as a life insurance actuary, primarily in financial reporting. I also spent six years in OPEB, which combines concepts of mortality and morbidity with pension-type actuarial cost methods.

Most recently, I started a new career as a life insurance regulator for the state of Minnesota. As a regulator, I have a role in overseeing the companies domiciled in Minnesota, and I also serve on several National Association of Insurance Commissioners (NAIC) committees that discuss aspects of regulation affecting the whole country.

Why is the aging society important to life insurance regulators?

Life insurance regulators are primarily concerned that mortality assumptions used for statutory valuations are appropriate. During 2016, I joined a work group that is reviewing the inadequacy of the mortality assumptions for single premium immediate annuities (SPIAs) and other similar lifetime payout products. The problem is that the old mortality tables do not reflect the mortality improvements that have occurred in the last few decades; at the same time, these assumptions are locked in at issue, per the statutory valuation rules.

It is also the case that the formula for risk-based capital, which prescribes the minimum capital that a life insurance company should hold, includes no charge for longevity risk. The same work group is addressing this issue as well.

It should always be noted that life insurance companies and life insurance regulators are primarily concerned with insured lives, not the general population.

Please share with us two or three things you heard at Living to 100 that you found to be particularly interesting or helpful?

1. (General Session I) The prospect that metformin, if it performs as advertised, can defer the onset of multiple diseases, is very interesting. It is important also that the drug can be priced within reach of most Americans, which means that the impact could be widespread. The potential impact on reserves for lifetime-payout products will be important to regulators.

2. (General Session II) The perspective that post-retirement needs to consider three components—financial, physical health and psychosocial health—is an interesting departure from the paradigm of thinking only of the financial component.

This symposium has included eminent presenters who look at aging from the perspective of the physical sciences. This “basic science” can no doubt inform actuaries as we examine mortality for our own purposes. It is my hope that future symposia will explore some of the “softer” sciences, such as sociology, psychology and behavioral economics, in discussing post-retirement issues and aging.

What things will be most useful in your work?

I don't see much as directly relevant to my work, but it provides an awareness of what I might expect to see in mortality rates at the higher ages in future CSO mortality tables.

What things did you find to be surprising?

In the presentation on the Human Mortality Database, the basic objective is to calculate D (number of deaths) / E (exposure). It was surprising how complicated this gets when you consider factors like data quality and migration.

I was not surprised that most first-world countries are represented in the database; but I was disappointed at the dearth of information on third-world countries. In particular, I saw no countries from the continent of Africa—not even South Africa, which has a substantial actuarial profession.

Were any of the findings disturbing?

The most disturbing message is that the U.S. society is not prepared to provide all its citizens a comfortable life beyond, say, age 80. This will probably only happen for those that have lots of money *and* lots of family support. It has caused me to start thinking about where (i.e., what other country) I might live after retirement.

What did you enjoy the most?

The most enjoyable part of an SOA meeting is always networking with colleagues and meeting new colleagues.

Do you feel that other regulators would benefit from coming to future Living to 100 sessions? Why?

Regulators who have a particular interest in mortality should attend this symposium. However, most regulators have a wide-ranging portfolio of responsibilities, and a conference focused solely on late-age mortality may not resonate with them.

HEALTH EXPECTANCY AND AN ACTUARIAL PERSPECTIVE ON THE LIVING TO 100 SYMPOSIUM: FAYE ALBERT

Faye Albert is an actuary located in Miami, Florida. She has attended all six Living to 100 Symposia.

Can you tell us a little about yourself and the work that you do? Do you have any particular areas of specialty with regard to the types of issues you advise clients on?

I have practiced as a life insurance actuary first working for insurance companies and then in consulting. My focus has been on mortality and factors affecting mortality, but I have also done work in the area of health expectancy. At the 2008 Living to 100 Symposium I co-authored a paper with Jim Brooks and Jack Bragg suggesting a way to look at health expectancy. It is available on the SOA website.¹

You have attended all of the Living to 100 Symposia. What attracted you?

Living to 100 and Beyond is a multidisciplinary symposium and provides insights into how life spans are changing, what forces drive these changes, what additional changes are in the offing, and how society responds to changing life spans. The symposia have an international focus and include an emphasis on understanding mortality change and measurement, and financial security. All these questions are intriguing; the meeting is not overwhelming in size, and feels collegial.

All past symposia are available on the SOA website. The 2017 symposium will be available in the fall. Past meetings are interesting as well, for example, comparisons of mortality among the United States, Great Britain and Canada is shared by their respective social security actuaries.²

Please share with us two or three things you heard at Living to 100 that you found to be particularly interesting or helpful?

The research described by both Dr. Nir Barzilai and Dr. Judith Campisi was fascinating. (General Session I and General Session III)

Their work suggests that as we live longer, we may be able to age without the pathologies and disabilities associated with old age, or at least postpone these pathologies and disabilities. Preliminary research suggests this, and Barzilai is conducting a formal research study to demonstrate that metformin has had success in accomplishing this. Other medications may have even better results.

How does this help us in our work?

In the work on health expectancy that I did in 2008 we segregated life expectancy into periods that might be expected to be healthy, requiring assisted living and/or requiring skilled nursing care, based on observations prior to that time.

Eric Stallard's 2016 article, "Compression of Morbidity and Mortality: New Perspectives,"³ defined morbidity compression by focusing on the reduction in lifetime activities of daily living (ADLs) and/or cognitive impairment (CI) disability days, using ADL and CI disability measures designed to be maximally compatible with the 1996 federal Health Insurance Portability and Accountability Act (HIPAA) requirements for tax-qualified

long-term care insurance and services (Internal Revenue Service 1997).

Work defining morbidity compression, substituting impressions of improved health for observable measures, is an exciting area for research. If a straightforward definition for "infirm old age" could be created, then it would be easier to quantify morbidity compression. This would be most useful and more feasible in light of the advances in medicine described at the last Living to 100 Symposium.

How can health expectancy be used?

Health expectancy, like life expectancy, is an average. It is not a good indication of what any one individual can expect, but it is a good indication that many people will have periods of needing help and it offers some averages. For individuals, it can offer a strong signal of the importance of planning and it can be a wake-up call. For employers, it offers a good indication of what their employees may face in the future in the aggregate. Likewise, for policymakers, it offers a good indication of what might be expected. Health expectancies will be even better if they also include information about the 90 percent as well as the 50 percent.

Note: Levels of impairment and the need for assistance are defined by inability to perform prescribed ADLs and by CI. ■

ENDNOTES

- 1 <https://www.soa.org/library/monographs/retirement-systems/living-to-100-and-beyond/2008/january/subject-toc.aspx>
- 2 <http://livingto100.soa.org/symposium.aspx>
- 3 Eric Stallard (2016) Compression of Morbidity and Mortality: New Perspectives, *North American Actuarial Journal*, 20:4, 341–354, DOI: 10.1080/10920277.2016.1227269.