SOCIETY OF ACTUARIES Long Term Care Insurance Section

Long-Term Care News

ISSUE 33 JANUARY 2013

Solving the LTC Crisis in 20 Minutes

by Roger Loomis

The long-term care (LTC) system in the United States is in a state of crisis: a tsunami of baby boomers is now hitting retirement. Most of them don't have enough money or insurance to pay for a long-term care event, and Medicaid doesn't have the money to pay for it either. Your job is to come up with the best solution to this challenge, which will entail overhauling the insurance industry, the regulatory environment and the government's safety net. You have 20 minutes. Go!

THINK TANK ON STEROIDS

On Sept. 12 at DI and LTC Insurers' Forum in Las Vegas, 45 industry leaders gathered for a 75-minute session titled "Think Tank on Steroids." We divided into five groups and were given a simple assignment: design an insurance product that would meet the needs of a representative middle-mass market family,[1] adjust the regulatory environment to make this product work, overhaul Medicaid, and come up with proper incentives for families and individuals to take responsibility for themselves. After spending 20 minutes coming up with a solution, each group presented its solution to the entire think tank, and we then voted on which solution was best. The objective was to come to a consensus decision about what ought to be done.

Of course 75 minutes wasn't enough time to debate the merits of every idea, perform an actuarial analysis on the plan's financial viability, and come up with a true consensus plan. But certain themes did emerge from the various groups, which provided a sense of what the consensus plan might look like.

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Actuaries
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ISSUE NUMBER 33 | JANUARY 2013

Published by the Long Term Care Insurance Section Council of the Society of Actuaries

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Long-Term Care News

Change Is Constant

by Jesse Slome

Planning is our brain's response to preparing for the unexpected. We try to predict events and try to define changes, outcomes and consequences. Sometimes we succeed; often we don't.

All other animals change as the result of evolution. Human history uniquely consists of changes that occur without any evolution taking place. Because we have language, we can share and pass down knowledge to future generations. Because we have insight and creativity, we can find better ways of doing things.

On the one hand, humans are resistant to change. Many find comfort in the status quo. But, many are naturally very curious—seeking to explore new worlds, new options, new ways of making the future better.

Change is constant, and certainly the long-term care insurance industry has had a front-and-center seat for the past few years. Change will continue—some of it predictable; some of it not. Knowledge is the best tool for understanding change, and this publication is a great forum for allowing the best and brightest to share.

It has been my pleasure to contribute in some small way for the past year. Change can be scary. But it can also be exhilarating to be part of the process. The faster you can adapt to change, the easier your life gets. ■

Jesse Slome is the executive director of the American Association for Long-Term Care Insurance. He can be reached at *jslome@aaltci.org.*

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allied professionals take the
time to put together relevant,
meaningful material."— 2012 Attendee

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Stay the Course

by Jeremy Williams

When I started to think about what I might write for my first Chairperson's Corner, I went back and re-read the entries from our past esteemed chairs. Throughout those articles, I could really feel the passion and dedication that my predecessors have brought to the table to make sure that long-term care (LTC) is a viable and successful product. Under their watch, a strong foundation has been constructed through the development and expansion of education, communication and community development, research, section value and thought leadership. Go back and review the last several years of *Long-Term Care News* issues, and you will see what I mean. The accomplishments are truly impressive. I have some really big shoes to fill.

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So where do we go from here? Put simply, we stay the course. That strong foundation that I alluded to was built with one overarching goal in mind—find viable solutions to make sure that LTC thrives in the future. We must continue to build on that strong foundation and take the next step to develop and implement actionable solutions to the issues that plague the LTC industry.

To that end, the section council is moving forward on several fronts. In particular, there are two relatively new projects that the section will be sponsoring that I would like to bring to your attention. Both initiatives are geared toward finding sound LTC solutions, but they attack the issue from different perspectives. The first is the National Conversion on Long-Term Care Financing, which consists of a group of industry experts that will meet quarterly to develop proposals of sustainable financing system structures. The group is well-represented by all facets of the industry, including private, government and regulatory representation. To learn more, please read Steve Schoonveld's article in the September 2012 *Long-Term Care News* issue.

The second project relates to a new LTC Think Tank initiative called "Land This Plane." This is a creative undertaking that will utilize a Delphi study to reach "consensus" on solutions to LTC funding issues. The approach entails sending out multiple rounds of a survey to the members of the think tank. The surveys will contain open-ended questions that will be designed to allow respondents to anonymously provide their viewpoints. After each round, the survey results will be compiled and provided to the respondents. Subsequent rounds will be designed to provide opportunity to further explain the merits of their ideas and reconsider their opinions. After several rounds, the opinions should converge upon one or more clusters of opinions. The final solutions will then be published in a white paper. Roger Loomis, who is a co-chair of the LTC Think Tank, will oversee the project.

One final note—we are once again in the transitional phase during which we welcome newly elected council members to the beginning of their three-year terms and say goodbye to departing members. This year's new council members are Jim Berger, Bob Hanes and Sheryl Babcock. On the flip side, Jay Bushey, Laurel Kastrup and Roger Loomis will be departing, as their terms are up. In addition, two new affiliate members—Joe Furlong and Paul Gribbons—have joined the fray with one open spot yet to be appointed. They will be replacing Winona Berdine, Ron Hagelman and Maureen Lillis. I want to thank the outgoing members for their many contributions and dedication and look forward to working with the new members as they lead the section over the coming years.

As always, if you have questions or feedback please feel free to reach out to me or one of the other council members. Please remember that this is your section and your industry. We are always looking for more volunteers, so please reach out if you are willing to help. And remember to stay the course …. ■

This article will now present an approximation of what we came up with.

Our ideal plan for dealing with LTC can be thought of as a three-legged stool. The legs are private savings and assets (including tax-advantaged LTC savings accounts), long-term care insurance (LTCI; including smaller, more affordable products) and support from the family. The Medicaid system ought to be reformed so that it is only available to people who have exhausted all other options.

RE-ENGINEER THE LTCI INDUSTRY

There are basically two reasons that the middle-mass market hasn't embraced LTCI: a lack of understanding the risks that LTCI mitigates, and the fact that LTCI is expensive. Both of these issues will be addressed through a two-pronged system—a tax-advantaged savings component and an insurance component.

SAVINGS COMPONENT

People will set up long-term care accounts (which I will arrogantly refer to as LTCAs) that will be used to finance LTC. LTCA accounts will function like an IRA or a 401(k) with features such as investment choices and ownership of the account. People will be free to roll over money from their 401(k) plans and IRAs into their LTCA.

Not only can individuals contribute to their own accounts, children may contribute to the accounts of their parents.

LTCAs may be set up by individuals or employers, and ideally will become a standard piece of compensation packages, like a 401(k). Appropriate tax incentives will be provided to employers to set up these plans.

TAXES ON SAVINGS COMPONENT

Money is invested into LTCAs on a pre-tax basis. Unlike 401(k) plans or IRAs, there is no requirement to start making withdrawals at a certain age. Money in the account may be spent on LTCI premiums or directly on LTC expenses. In either case, the expenses are tax-free. The money could also be withdrawn, but income taxes and penalties would apply.

When the owner of an LTCA dies and there is still money in the account, it can be rolled over into an LTCA belonging to a spouse or child, or it can be withdrawn into their estate. If it is withdrawn, the money will be taxable.

INSURANCE COMPONENT

While any existing LTCI policy can be financed through an LTCA, the existence of a well-funded LTCA also makes it more feasible to offer universal LTCI (which I will arrogantly refer to as ULTCI). ULTCI just might be a great insurance product for the middle-mass market.

ULTCI will function similarly to universal life insurance. For example, every month a cost of insurance (COI) charge would be charged to the account, which would pay for the expected claims of that month. The policy could be structured so that the money in the LTCA account would be used to pay for care during an elimination period. So, a policy could be designed with an elimination period (EP) that increases over time. The increasing EPs would mitigate the increase in the COI charges, which would help extend the lifetime of the policy.

The basic policy will have a "short-and-fat" benefit structure with coinsurance. It would only offer basic coverage of services performed by licensed providers. The coinsurance piece can be paid with money in the LTCA. It will cover services performed by licensed professionals only.

COST SAVINGS

At least five factors have led to expensive LTCI: low interest rates, high morbidity, high margins due to rate stability regulations, high inflation rates for LTC services, and low lapses. A plan based on LTCAs and UTLCI deals with the first four issues.

***Interest risk transferred to policyholder*:** Under a ULTCI policy, the interest rate risk is transferred from

the insurance company to the policyholder, so the insurance company won't have to manage this risk.

Policyholder incentives: Because the policyholder owns the money in the account, there will be a natural incentive to only use benefits when absolutely necessary. Rather than use-it-or-lose-it, it will be use-it-or-save-it. This should result in significantly lower claims.

Lower margins: The insurance company can operate on smaller margins because it will be assuming less risk: the plan is designed so that policyholders assume the interest rate risk, the LTCA savings component pays for a significant part of the care, and the family has a financial incentive to keep morbidity rates low (more on this last point below).

Mitigation against inflation: Inflation in LTC services can be attributed to many things, including low reimbursement rates by Medicaid beds being subsidized by higher rates on the non-Medicaid beds, and perhaps by people with rich LTC plans trying to maximize the benefit they receive. The LTCA and ULTCI approach allows more freedom to choose your own plan of care and hence avoid subsidizing Medicaid. In general, it provides market-based incentives to minimize costs. By giving the family financial incentives to be frugal in how they spend on LTC services, providers will be more likely to compete and innovate on price as well as on quality.

MEANINGFUL BENEFITS

A legitimate problem with current insurance products is a dilemma involving informal care. On the one hand, it would be an economical use of benefits to pay family members to provide informal care. But on the other hand, such benefits invite higher utilization rates and sometimes fraud. A ULTCI plan opens a way to allow family members to be compensated for providing care without higher utilization rates and without inviting fraud. Specifically, if a parent needs care and a child provides it on an informal basis, they will be preserving the value of LTCA, which they can then eventually inherit.

A possible concern with transferring the investment risk to policyholders is what happens if the investment results are disappointing. An environment where interest rates are low for an extended period of time should be correlated with a low-inflation environment, so if the fund doesn't grow as large as would have been hoped, it should be okay because it's likely that the actual cost of care will not have increased as much as originally feared, either. [2]

A legitimate problem with current insurance products is a dilemma involving informal care.

Even if higher interest rates are expected in the future, insurance companies couldn't price on that assumption—prudence forces them to price on low interest rate assumptions, and then get a windfall if interest rates rise. By passing interest risk onto the account holder, account holders get the upside benefit of higher interest rates in the future. Furthermore, since disappointing investment returns are a systematic risk, insurance companies can't spread it across a large group of individuals anyway.

REFORMING THE GOVERNMENT SAFETY NET

Medicaid

The question of how Medicaid ought to be reformed

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The three legs of providing long-term care are savings and other assets, LTCI and help from the family.

is relatively simple, and the group agreed to the following.

Tighten eligibility: This idea is not new. As Stephen Moses has evangelized, "Medicaid limits non-exempt assets for LTC recipients to $2,000. But, exempt assets are practically unlimited."[3] There should not be exempt assets. Medicaid ought to be a welfare program for the poor and should only be available to those without assets. If you need LTC services and own a home that you don't want to sell, take out a reverse mortgage.

Loosen the Partnership program: Currently, the Partnership program is geared toward people in the affluent mass market, who purchase Cadillac LTCI plans to protect a significant amount of assets. Smaller plans that are more affordable to the middle-mass market don't qualify as Partnership plans. If somebody in the middle-mass market makes the sacrifice to purchase a smaller LTCI plan that they can afford, they ought to have some protection of their assets—such as they are—that Partnership plans offer the more affluent.

MORE HEAVY-HANDED MOTIVATION

Several members of the Think Tank on Steroids supported the government taking a more assertive role in motivating the middle class to take more personal responsibility for their LTC needs. If people choose to not participate in the LTCA program by buying at least a nominal amount of insurance or saving enough assets to self-insure, they will face a reduction in their Social Security benefits, which will help finance their default insurance plan, Medicaid.

CLARIFY FAMILY RESPONSIBILITIES

The *de facto* LTC plan of many families is the legitimate plan of seeking help from the family—if mom or dad can no longer perform their own activities of daily living, their spouses, children, children-in-law and grandchildren will step up and help. While this can be a burden, taking care of your own family is an ethic that Americans ought to embrace and celebrate.

The advantage of the LTCA and ULTCI plan described here is that it provides coverage that blends with the level of care that a family is willing and able to provide. The ability of children to make tax-deductible contributions to their parents' LTCA helps clarify the ethic that children do in fact have some responsibility to take care of their aging parents. If you don't want to worry about your parents moving in with you when they can no longer perform activities of daily living (ADLs) without assistance, then you ought to talk to them about the state of their LTCA, and start contributing to it if you need to.

Likewise, if your children *do* want to take care of you, under this plan they won't be financially penalized for doing so—by taking care of your parents rather than hiring professional care, the value in the LTCA account (and other assets) is preserved for future generations.

The three legs of providing long-term care are savings and other assets, LTCI and help from the family. With the proper systems, incentives and education in place, Medicaid becomes what it should be: a program for the truly poor who have no other options.

LTC THINK TANK

The above ideas are what came out of a 75-minute session at an industry conference. In contrast, the official Long-Term Care Think Tank (sponsored by the Long Term Care Section) has spent the last seven-and-a-half years brainstorming about ways to improve LTC in the United States. Ideas have been as big as covering everybody through "Medicare Part E," to as small as tweaking benefit eligibility for Medicaid so that it is reserved for the truly indigent.

As a nation, we've come to the point where grown-up decisions need to be made. The tsunami of baby boomers is going to hit the shore. The only question is whether or not we will do what we still can to prepare for it, or whether we will ignore the issue because it isn't pleasant to think about.

As thought leaders on this issue, the think tank needs to take a leadership role in actually solving this challenge. Our next goal is to come to a consensus decision on how to address this challenge in a

way that is both economically viable and actuarially sound. We will then publish the solution in a white paper. This will at least give policymakers a starting place for use when they find the political fortitude to actually deal with these issues.

If you have fresh ideas, good judgment, and care about this issue, we invite you to join the think tank and help us work out the solution. If you are interested, please drop an email to either myself or Ron Hagelman at *Roger.Loomis@arcval.com* or *ron@rmgltci.com.* ■

Roger Loomis, FSA, MAAA, is a systems development actuary at Actuarial Resources Corp. in Overland Park, Kan. He and Ron Hagelman, CLTC, CSA, LTCP, are co-chairs of the Long-Term Care Think Tank.

END NOTES

1. For a definition of "the middle-mass market," See Anna Rappaport's presentation, "Segmenting and Defining the LTC Market" in the report of the 2010 think tank (*http://www.soa.org/professional-interests/long-term-care-insurance/think-tank.aspx*).
2. See "Aspirin, not Morphine" by Bruce A. Stahl in Long-Term Care News Issue 32, September 2012.
3. See "Save Medicaid LTC $30 Billion Per Year AND Improve the Program," by Stephen A. Moses, *http://www.centerltc.com/pubs/Save_Medicaid_LTC_$30_Billion_Per_Year_AND_Improve_the_Program.pdf*.

Winning Strategies for a Changing Game

by Brian Poppe

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This past September, LIMRA, LOMA and the Society of Actuaries jointly sponsored the DI & LTC Insurers' Forum at Planet Hollywood Hotel in Las Vegas. This annual conference is designed for executives and professionals responsible for and interested in individual disability income (DI) and long-term care (LTC) products, sales, distribution, claims, underwriting and administration. New this year was an LTC combination products track, directed at individuals interested in life/annuity and LTC hybrid products.

A few of the highlights this year were separate DI and LTC executive panels, which gave key insights into the status of the industry as well as its future direction, a motivational speech given by Bruce Boguski, and a 2012 election preview by UNLV professor David Damore, Ph.D.

In contrast to other conferences, the DI & LTC Insurers' Forum is primarily home office and administrative employees. Discussions this year centered on how to solve the looming baby boomer LTC crisis, how to utilize predictive modeling and how technology could benefit your company in various ways. Attendees enjoyed innovative sessions with several networking opportunities during and between sessions.

The 2013 DI & LTC Insurers' Forum will be held in Fort Lauderdale, Fla., on Sept. 18–20. ■

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A Voluntary Lapse Rate of 12.6 Percent for LTCI? Not Really

by Jonathan Prince, Marianne Purushotham and Barry Koklefsky

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In a recent article submitted to the journal *Applied Economic Perspectives and Policy,* Yong Li and Gail Jensen detail their research on the causes of voluntary lapse of long-term care insurance (LTCI) policies. The authors found that, when measured over a two-year period, "13% of LTCI policies lapse." Li and Jensen also conclude that individuals with less consumer knowledge regarding their LTCI coverage, individuals who purchased policies with lower benefit levels, and individuals who had received LTCI benefits are more likely to lapse.

But, before you increase your voluntary lapse assumption, you should read on! This article reviews the data and methodology used to arrive at this seemingly incredible rate, compares the Li/Jensen results with those of recent industry studies, and suggests areas for further study for both LTCI actuaries and the authors.

DATA

The Li/Jensen work is based on data from the U.S. HRS (U.S. Health and Retirement Study) for the years 2002 through 2008. The HRS is produced by the Institute for Social Research at the University of Michigan and is based on responses to surveys of more than 22,000 people over the age of 50 conducted every two years. These biennial surveys collect data on respondents' health, financial resources and insurance coverage. In 2002, the survey began to include questions on these individuals' private LTCI coverage, such as the types of LTC services covered, the premium charged, and whether the coverage included inflation protection.

Li and Jensen's analysis is focused on HRS respondents who indicated they currently have LTCI coverage that provides nursing home care for a year or more or provides personal or medical care in the home. Respondents also needed to confirm that their insurance coverage was not provided by public sources such as Medicaid, Medicare or traditional health insurance. The number of unique individuals falling into this category over the six-year period was 2,085, and the total number of observations included in their analysis was 4,473.

The industry studies produced every 2 to 3 years by the Society of Actuaries (SOA) and LIMRA are based on data provided directly from insurance carriers, ensuring that only individuals with confirmed private insurance coverage for long-term care are included in the analysis of voluntary lapse activity. In addition, these industry studies have greater statistical credibility. The most recent SOA/LIMRA study of LTCI voluntary lapse covered experience years 2005 through 2007 and included more than 280,000 lapses and 7.4 million lives exposed.

For purposes of the Li/Jensen analysis, a "voluntary lapse" is recorded if an individual indicates that he/she had LTC insurance coverage in the prior survey, but had no coverage at the time of the following survey (two years later). The number of individuals who lapsed their policies over the full observation period was 565, so when this is divided by the total number of observations of 4,473, we obtain the overall lapse rate of 12.63 percent. Note that based on this definition of voluntary lapse, we would suggest that the 565 lapses identified by Li and Jensen almost certainly include non-lapse terminations such as deaths and benefit exhaustions. This may explain, at least in part, the counterintuitive result of the Li/Jensen analysis indicating that those who have used their LTCI coverage and received benefits are more likely to lapse.

For SOA/LIMRA industry studies, in most cases, additional information is collected indicating whether a policy termination occurred due to voluntary lapse, death or benefit exhaustion. This allows for a more accurate definition and more accurate recording of voluntary lapse activity.

METHODOLOGY

The Li/Jensen work involved the development of a multivariate logit model with parameters estimated via maximum likelihood. This model was then used to measure the importance of different factors potentially affecting lapse experience.

The SOA/LIMRA studies use a more typical survival experience analysis for the study of mortal-

ity, morbidity and voluntary lapse experience for LTCI.

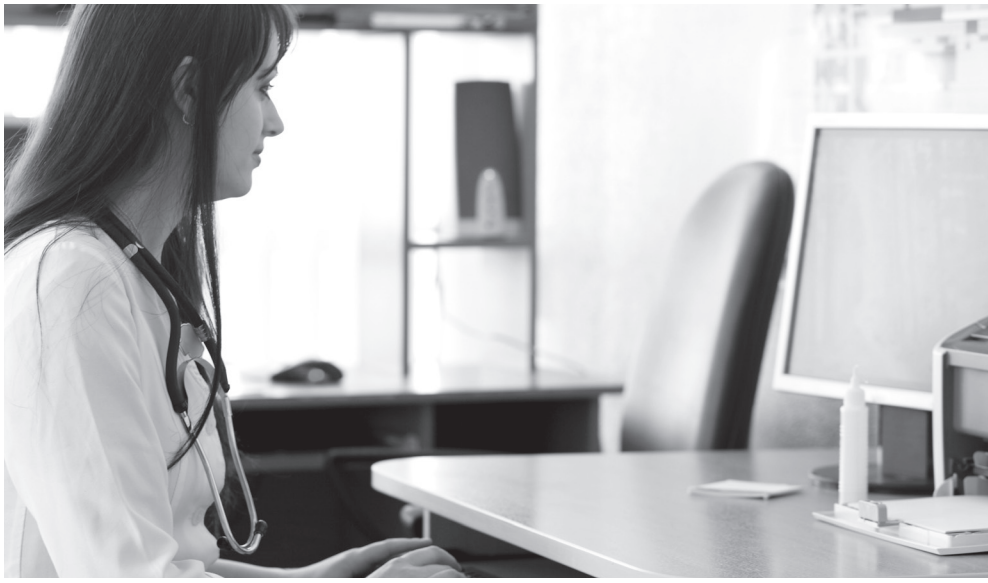
RESULTS

Overall rate of voluntary lapse. Li and Jensen concluded that "LTCI lapses remain relatively high at 13% per two year period." Readers should note that after adjusting for the fact that the Li/Jensen study reported voluntary lapse experience on a two-year basis while SOA/LIMRA industry results are presented on an annual basis, the overall lapse rates are reasonably close. Over the period from 2002 through 2008, on an annual basis, the LIMRA/SOA results of individual and group coverage, all issue years and all policy durations combined, indicate an overall lapse rate of 5.2 percent (assuming annual compounding and a uniform lapse distribution); and the Li/Jensen results indicate an overall annual lapse rate of 6.2 percent. Annual lapse rates in the range of 5 to 6 percent overall are also in line with other insurance financial products, including life insurance, annuities and disability insurance.

High early year voluntary lapse rates. SOA/LIMRA study results also concur with those of Li/Jensen in indicating that lapse rates are highest in the years immediately following policy purchase. This is most likely the result of buyer's remorse, possibly due to lack of knowledge regarding the product purchased.

Higher rates of voluntary lapse for individuals receiving LTCI benefits. The Li/Jensen results also seem to indicate that insureds who had experience with receiving LTC services and had dealt with their insurer to collect benefits were materially more likely to lapse than those who did not collect benefits. The authors suggest that those who received benefits under their LTCI policy may have been disappointed with the experience in terms of either the level of benefits received or their interactions with the insurer or both, leading them to lapse their policy. In our view, it is more likely that non-lapse terminations such as deaths and benefit exhaustions are impacting results for this portion of the population by inflating the reported voluntary lapse numbers.

Higher rates of voluntary lapse for individuals who were unfamiliar with their policies. The HRS



survey included questions requiring individuals to specify the premium range, presence of inflation protection, and care type covered (Nursing Home, Home Health Care or Comprehensive). Based on Li/Jensen's work, for individuals who responded "unknown" to the questions regarding the policy characteristics, and those for whom premiums were less than $50 per month, voluntary lapse rates over the study period were significantly higher than for those who responded definitively.

- Nearly 31 percent of those reporting monthly premiums of less than $50 per month, and nearly 23 percent of those who were uncertain of the premium amount, reported having lapsed their policies. In contrast, the two-year lapse rate observed for policyholders who could identify the range of their premiums was less than 10 percent.

- Similarly, over 23 percent of respondents who could not identify the existence or type of inflation protection on their policies voluntarily lapsed, while over 42 percent of policyholders who did not know the types of care covered by their policy voluntarily lapsed.

CONCLUSIONS

Overall rates of voluntary lapse based on the Li/Jensen analysis are reasonably close to overall rates of voluntary lapse reported in the SOA/LIMRA

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These statistics raise additional doubt as to whether the analysis is based on a true private LTCI population.

studies for a similar period. However, for purposes of pricing and valuation of LTCI blocks, more precise measurement of lapse rates is required, preferably based on a survival analysis methodology and using data that includes greater detail regarding the cause of termination. In addition, because lapse experience can vary significantly by policy and product factors, including type of coverage (group vs. individual), length of benefit period, length of elimination period, and inflation protection level, experience data should also allow for analysis based on these factors.

Finally, while the percentage of those surveyed who did not know the coverage care types provided by their policies was relatively small at 4 percent, 13 percent could not identify either the inflation protection feature or the type if they had it, and 15 percent did not know the premium amount for their policies. These statistics raise additional doubt as to whether the analysis is based on a true private LTCI population.

Although the relatively small sample size and the questions about the base population makeup lead us to recommend industry and individual company studies as the continued basis for LTCI financial work, the HRS data and analysis tools used by Li and Jensen provide an interesting starting point for further investigation of factors not currently included in the SOA/LIMRA industry data, including consumer knowledge regarding LTC and LTCI, socioeconomic factors such as household income, and health status. While the Li/Jensen study does not offer sufficient statistical credibility to be used for voluntary lapse experience analysis for valuation and pricing assumption setting, it suggests that other factors not ordinarily considered by actuaries should be incorporated into such analyses. ■

Long-Term Care Product Design: Two Common-Sense Recommendations

by Ed Mohoric

In the early days of long-term care insurance (LTCI), many assumptions were made regarding claim costs, lapses and investment returns. Many of these assumptions have proved wrong with the passage of time. The reasons are well known and much discussed within the LTCI industry. The result has been significant rate increases and, in many cases, an exit from the business by the insurers.

We have learned from the past (we hope); more appropriate assumptions are being made so that large rate increases should never be necessary on currently sold products. However, the problem now is that the products have become extremely expensive. A $200/day lifetime coverage plan with a 5 percent inflation benefit can easily cost a 60-year-old buyer over $6,000 per year. This is significantly impeding sales because a smaller percentage of the population can afford LTCI.

What follows are two modest design change ideas that—separately or together—could radically improve the value proposition for LTCI by lowering the cost of entry, which in turn could spur a new era of LTCI growth.

ASSUMPTION OF RISK: THE PROBLEM

LTCI is unique among mainstream insurance products in the amount of risk assumption that the insurance company accepts. Premiums are set based on assumptions for 60 or more years into the future, assumptions about utilization, longevity, cultural attitudes toward benefit use, expenses, lapses and investments. The insurance company sets a price that is expected to be locked in for the policy lifetime. No actuary can predict these assumptions with any accuracy—over time, the actual experience will either cause a loss (which has often happened) or a windfall for the company (which can also happen). The only adjustment that can be made along the way is to attempt a rate increase, which creates a whole new set of risks and issues—additional expenses, high marginal loss ratio, requirements for state approvals, slow implementation, anti-selection and reduced customer satisfaction.

LTCI is the only mainstream insurance product with this level of risk assumption (I exclude life insurance with low face amounts and hospital indemnity products, which operate in niche markets).

Specifically:

- **Casualty products:** Auto, homeowners and other casualty products are typically issued for one year. Upon renewal, the insurance company can adjust rates to reflect experience and/or refuse to renew individuals.
- **Major medical:** The premium guarantee here is also normally one year, and the insurer can adjust rates to reflect medical inflation, utilization charges, demographic shifts and group experience.
- **Medicare Supplement:** Similarly, premiums are adjusted annually for actual experience.
- **Universal life:** The product design allows adjustments in the cost of insurance (COI) charges, expenses and interest rates—often subject to a maximum charge or minimum guarantee. (Some recent universal life products have secondary guarantees that expose the carrier to similar long-term lapse and investment risks; however, many companies are redesigning these to reduce the level of risk assumed.)
- **Term life:** The premium changes periodically, which is due to age, minimizing the risk of lapse, and investment variance.
- **Annuities:** In fixed annuities, interest rates can be adjusted. In variable annuities, returns can be passed through to the insured. Longevity risk rates are not locked in until the time of annuitization.
- **Par whole life:** Dividends provide a buffer between conservatively priced products and adjustments for actual experience.

In all these other products, the insurance company assumes risk—as it should (that's its business)—but does not assume every risk to the degree assumed in LTCI. In all the other products there are adjustments that can be made to make the product more viable in different interest rate environments and as other future unknowns become known.

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LTCI is unique among mainstream insurance products in the amount of risk assumption that the insurance company accepts.

The initial purchased daily amount will be able to be compared with current costs and the worry about whether it's the right level for the future will diminish.

DESIGN CHANGE #1: TRUE INFLATION ADJUSTMENTS

My first design proposal is to cover inflation by adjusting both the benefit and the premium for inflation as it occurs. As best I can determine, the current standard of the LTCI industry-- the pre-funded 5 percent annual inflation provision--was developed in the 1980s. Given the high inflation fears at the time, I speculate that the rationale was to provide some inflation coverage while protecting the insurance company from the risk of continual high inflation.

A 5 percent annual increase became the codified standard since the 1990s, though recently 3 to 4 percent increases have been available. This common product feature has several poor design characteristics:

- First and foremost it is wrong. A 5 percent annual adjustment could never be right, and it would only be coincidence if it turned out to be near the level needed. While recent, lower increases such as 3 percent may "seem" more right in today's world, they still are not right—inflation will either be more or less than 3 percent but it will not be a 3 percent annual amount.

  A more appropriate approach will be to tie annual increases to the consumer price index (CPI), the medical care index CPI or some other independent index. The actual annual benefit change will closely mirror the true trend. The initial purchased daily amount will be able to be compared with current costs and the worry about whether it's the right level for the future will diminish. (Is it really appropriate to ask the consumer to choose between a 3 percent and a 5 percent long-term inflation rate?) The table in Figure 1 summarizes the total CPI, the medical CPI rate and the nursing home/adult daycare CPI rate, over the last 10 years, based on the all-urban consumer price index (CPI-U).

Figure 1. Medical Inflation Changes

	CPI-U	Medical Care CPI-U	Nursing Home CPI-U
2002	2.4%	4.7%	4.3%
2003	1.9	4.0	5.8
2004	3.3	4.4	3.5
2005	3.4	4.2	3.5
2006	2.5	4.0	5.1
2007	4.1	4.4	4.9
2008	.1	3.7	3.2
2009	2.7	4.3	3.6
2010	1.5	3.4	3.2
2011	3.0	3.0	3.0

- Annual funding: Because the "cost" of the CPI increase will not be pre-determinable, the price of inflation coverage will not be fully pre-funded. Annual premium increases according to a predefined formula will be used. The increases will be understandable and acceptable to the insured as they are tied to an index and are consistent with general inflation changes. The insurance company's risk on investments and on lapse is also lessened. ("Lessened" but not eliminated; there is still age pre-funding that will entail lapse and investment risk; also the slope of the benefit curve means there will still exist some pre-funding of the inflation benefit.)

- For the insured, the initial outlay is significantly less and is more appropriate. Individuals who happen to claim, die or lapse early are not funding for others' benefits; people who claim late will be assessed a fair amount—consistent with inflationary changes.

Because the pre-funding of inflation will be not be as significant under an annual funding approach, it will also reduce the level of early reserves and will therefore free up insurance company capital.

The chart in Figure 2 gives an example on how premiums may compare. Using reasonable current pricing assumptions, I illustrate the potential differ-

ent premiums for a $200/day plan purchased at age 60 using the last 25 years of the CPI (which averaged 2.9 percent). The initial premium for inflating premium CPI coverage is 57 percent lower than a plan that guarantees 5% benefit inflation using a level premium; the actual premium does not exceed the level premium until 35 years. Alternatively, if the 5 percent is reduced to the CPI level, the level premium drops by 37 percent—but even here allowing the premium to move with inflation produces an additional 32 percent reduction, and the actual premium does not exceed the level premium until 13 years.

The use of a predefined formula for changing the premiums—including for new issues—should allow companies to implement the CPI changes without re-filing the product with state insurance departments.

There is at least one company that currently offers a CPI rider in some states. The design is similar to a guaranteed purchase option that must be accepted annually. The price for the benefit increases is based on the issue age of the insured.

DESIGN CHANGE #2: TERM RATING

My second design proposal, which is likely more controversial, is to allow attained-age rates, similar to term life insurance. The potential controversy is likely not due to the concept but to the magnitude of change if fully implemented.

The impact of using term premium rates would be similar to non-fronting of the inflation coverage, but would be greater because age exerts more leverage. Where current annual inflation changes to premium would be expected in the 3 percent range, annual age adjustments to premiums would be 10 percent or more. This would allow the cost of entry to be much cheaper and would release significant reserves, but the annual change in premiums would be high. Consumers would need to understand the ultimate costs and may not be willing or able to pay them.

The chart in Figure 3 is an example of how the premiums may compare for an attained-age policy purchased at age 60 (without inflation). The initial premium is only 13 percent of the level premium and does not exceed the level premium for 18 years. Term premiums cannot currently be used for LTCI plans because the Long-Term Care Insurance Model Regulation—a form of which has been adopted in most states—says in Section 6.F.(1) that "the premium charged to an insured shall not increase due to ... the increasing age of the insured at ages beyond

Figure 2. Annual Inflated Premium

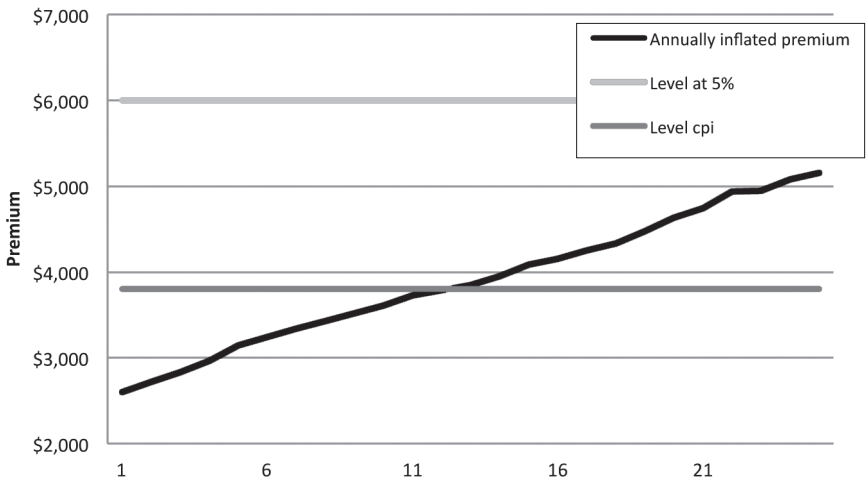
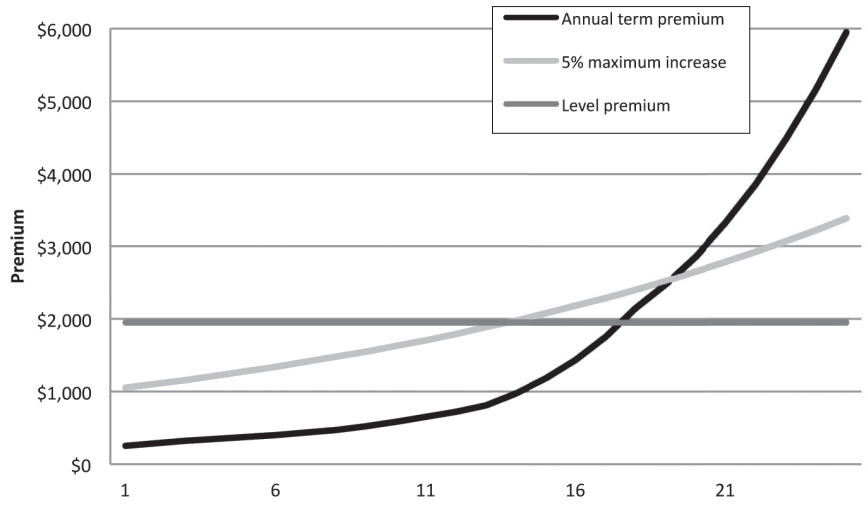


Figure 3. Annual Term Premium



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Both of these common-sense design changes have the combined attraction of being consumer-friendly while also reducing the level of risk assumed by the insurance company.

65." Thus, only limited amounts of term pricing can be currently applied to the younger ages; in practice, it is not done.

This provision is included to protect consumers from increasing rates. However, this design restriction has contributed to the level of risk to insurance companies from making long-term assumptions regarding interest and lapses. Historically, this has added to the unplanned rate increase needs in recent years, which have been detrimental to consumers. With a term arrangement, the increases would be known and expected.

It is also out of step with the way LTC is priced within a combination product—where LTC coverage is added to a life insurance policy. These products have a de facto attained-age structure as the "premiums" are typically applied as term COI charges within the policy. (I note this would also be the structure that would be embedded in a universal LTC product, which has been proposed by many people over the years—most recently by Bob Yee in the May 2012 issue of *Long-Term Care News*.)

If the full annual increase is deemed too steep for consumers, rate safeguards may be added to reduce the annual increase or the ultimate level. For example, a product could:

- Limit the maximum age at which premiums may increase—say, to age 80 or 85
- Limit the annual increase to a smaller amount—say, 5 percent or 7 percent.

Either of these would necessitate some pre-funding, but would also create a product that has less investment and lapse risk than current designs, reducing the cost barriers to purchase. Figure 3 also shows that a 5 percent maximum increase by age would still allow for an initial premium that is a 45 percent reduction to a level premium and that would remain lower for 14 years.

Movement to an attained-age-rated product—or partially so—lowers the entry barrier to individuals. Of course, any changes in future premiums would need to be clearly illustrated and explained so the insured understands the implications.

* * * * * * *

Both of these common-sense design changes have the combined attraction of being consumer-friendly while also reducing the level of risk assumed by the insurance company. Both represent a change from current industry design and practices; use of any attained-age premium beyond age 65 will require working with the National Association of Insurance Commissioners (NAIC) and state regulators to broaden permissible pricing designs. Similarly, the technical provisions within the "moderately adverse" actuarial certifications of the LTCI Model Regulation may currently prevent an index-adjusted premium.

However, the NAIC is starting to review the LTCI Model Regulation and may soon make some revisions. Given the recent state of LTCI sales and acceptance, now is the time to incorporate some changes that will reestablish this necessary product offering as a viable purchase. ■

500 LTCi Producers Gather to "Focus Forward"

by Jesse Slome

Why did over 500 insurance agents gather in Las Vegas this November? They came to get one question answered: Will there still be a long-term care insurance (LTCi) industry going forward?

On a daily basis I speak with insurance agents and brokers—some of whom have been selling LTCi for decades; some for just a few months. The discussions often start with generalities, but often, when you peel back the layers, there are some deeply rooted concerns about the future of the industry.

Their concern is appropriate considering the onslaught of negative events that have taken place over the past year. To paraphrase one agent, "I don't want to be the last one looking for a lifeboat if the ship is sinking." So writing about the 30 or so sessions taking place at the 2012 Long-Term Care Insurance Summit would be, in my opinion, missing the larger context about why over 500 insurance agents paid out of their own pockets to gather with their peers.

They are coming to hear about the future of an industry that has experienced several years of upheaval. And that's why the summit's theme, "Focus Forward," is so appropriate because a look back is instructive; but a look forward is more valuable and vital than ever. The summit uniquely for the LTCi industry is the one venue that gathers a diverse spectrum of those who exclusively focus on marketing and selling LTCi.

This year the American Association for Long-Term Care Insurance partnered with Harley Gordon and the Corporation for Long Term Care Certification in developing the program. Sessions focusing on the changing landscape dealt with selling LTCi to those with no prior LTC experience. Other sessions focused on selling exclusively over the phone and Internet, a process being utilized by an increasing number of producers with a high degree of success.

Following the Republican and Democratic conventions, there was media discussion about the relevance of these events. Do they serve a purpose? Couldn't technology be used to replace them? One expert replied with an answer that I believe correlates to the LTCi industry: "They serve a value to motivate the troops who leave for home and then spread their excitement and their positive message."

There may have been no more important time for the summit to be held—for the one simple reason that agents will leave Las Vegas knowing there is a future (albeit a changed one) for LTCi and will "spread their excitement" and positive passion to others. And, yes, a few will win at the blackjack tables or enjoy a good show. ■

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They are coming to hear about the future of an industry that has experienced several years of upheaval.

Conducting a Long-Term Care Experience Study

Tips and Pitfalls

by Mike Bergerson and Matt Winegar

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As with other types of insurance, long-term care (LTC) insurance relies on experience studies for determining premium rates and managing in-force business. Comparisons of actual and expected experience are central to developing an accurate model of future costs.

We have worked on many LTC experience studies these past several years and have compiled a list of some issues to consider when reviewing experience and setting projection assumptions for the future. This article focuses on possible trouble areas where some additional thought may be necessary. This list is by no means complete, and each item is discussed in relative brevity. Below, we discuss two general categories: policy termination assumptions and morbidity assumptions.

TERMINATION STUDY

A policy termination study, which includes both voluntary policy lapsation and mortality, is more straightforward than a morbidity study, but it is no less important. The long-term nature of LTC business and increasing claim costs by age mean that a small variation in policy terminations can significantly impact a company's projections.

1. Total terminations versus lapse and mortality separately. Most LTC projection models have separate assumptions for mortality and voluntary lapse, but oftentimes LTC policy terminations are not accurately coded in the actual data. Most LTC policies do not include a death benefit, so there is no incentive for survivors to notify the insurance company when the insured dies. In many cases, a death is recorded as a lapse, because all the insurance company knows with certainty is that it is no longer paying premiums.

Policy termination reasons are not always available, and those that are available are not always reliable. In that case, a policy termination study that separates mortality and voluntary lapse will not lead to accurate assumptions for the future. Here are a few options to deal with termination data that may not be accurately coded:

- *Government data.* Deceased Social Security numbers can be purchased from the government. The company's data can be compared to the deceased Social Security numbers and updated with the more reliable mortality data. However, effective Nov. 1, 2011, the Social Security Administration made changes to remove certain records from this database and limit the sources available for adding new records in the future.
- *Same-company life insurance.* Life insurance carriers obviously do receive notification of policyholder deaths. If an LTC company is also a life insurance carrier, it can cross-check its data with its life insurance experience to make its LTC termination codes more accurate for those insureds who have both LTC and life insurance policies.
- *Implied voluntary lapse.* You can work around the problem by conducting a policy termination study based on total policy terminations. In this case, you choose a reasonably representative mortality assumption and use it to develop the number of assumed deaths in the data. You then impute the voluntary lapse rates from the actual policy terminations and the assumed number of deaths.

2. Calculating partial exposure. Policy termination studies generally aim at producing a rate calculated by the number of terminations divided by the exposure. Exposure can be policy months, policy years, or whichever basis the company chooses. Partial exposures occur when an insured purchases, dies, or lapses partway through an exposure period. How these partial exposures are counted is important to the policy termination study.

It may seem logical to count partial exposures by decimal fractions, but a common industry standard is to give a termination the value of a full exposure regardless of when the termination occurs.

To understand why this makes sense, consider a case in which three policyholders die halfway through the year. Three terminations would be recorded, but

using decimal fractions only yields 1.5 exposures. Dividing the number of terminations by the exposure yields a termination rate of 200 percent (which obviously does not make sense). However, counting a whole year of exposure for these three terminations yields a termination rate of 100 percent, which is correct in this case.

3. Benefit exhaustions. Benefit exhaustions occur when a policy terminates because all of its LTC benefits have been used. It is important to develop policy termination assumptions on the same basis that they will be used in the projection model. If you do not handle benefit exhaustions elsewhere in the projection model, you can include them in the voluntary lapse assumption, and therefore you should also include them in the voluntary lapse experience. In that case, policy terminations may increase after 20 or 30 years, not necessarily because of increased lapses or mortality, but because insureds are running out of benefits.

4. Shock lapse. Rate increases may cause shock lapses that appear as spikes in the policy termination rate. You should generally treat shock lapse as a one-time event that is not expected to continue (unless future rate increases are anticipated). As such, you need to remove this impact from the termination study. Here are a couple of common ways of addressing shock lapses:

- *Isolate it.* If it is a closed block of business and in its ultimate period, you may be able to estimate the impact of shock lapse by comparing the lapses in the year of a rate increase to the ultimate lapse rate in the surrounding years. Then you could back out the assumed impact of shock lapses from the observed lapse rate. This is also useful if the company plans to implement additional rate increases and is interested in the impact of such a rate increase on the business.
- *Remove it.* Sometimes it is not possible or practical to back out the assumed impact of shock lapses from the termination study. In this case, it may be most prudent to simply remove the year(s) of rate increase implementation from the termination study experience period.

Impact of Applying Non-Claimant Morbidity Assumption to All Lives Exposure Base

Attained Age	Probability of Being on Claim	Percentage Error in Applying Claim Costs to All Lives
65	0.007	1%
75	0.030	3%
85	0.167	20%

MORBIDITY STUDY

There are as many ways to conduct an LTC claim morbidity study as there are companies to conduct them. The study must be conducted in a way that is consistent with the assumptions that are input into the company's projection system. You may look at claim incidence and claim termination separately, or you may only be concerned with the total claim cost. While each block of business is unique, there are a number of common issues worth considering.

1. Claim incurral definition. What is a claim? While a seemingly harmless question on the surface, this can pose quite a problem if the data warehouse, the morbidity study and the projection system are not on the same page. For example:

- *Elimination period.* Does a claim begin when the policyholder first starts receiving care, or after the policyholder satisfies the elimination period? If the data warehouse (i.e., actual claims) counts a claim as soon as care is received, but the projection system (i.e.,

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Rate increases may cause shock lapses that appear as spikes in the policy termination rate.

If care path transitions are not addressed, the actual-to-expected ratios in a morbidity study may be misleading.

expected claims) counts a claim only if the elimination period is satisfied, the claim incidence actual-to-expected ratio may be artificially skewed in the morbidity study.

- *One claim versus two claims.* When does a gap between claim payments cease to be a gap and instead split the payments into two distinct claim incurrals? One common practice is to consider any gap in benefits longer than six months as a new claim. This, however, varies from company to company.

2. Transitions. Transitions between sites of care are common and can have a significant impact on claim costs. Home care is generally less expensive than care at a facility, so if a claim starts in a home care setting and then later transfers to a nursing home, the composite claim cost is generally higher than if the insured stayed in the home for the entire length of the claim.

In 2009 the Society of Actuaries (SOA) published a study titled "Transfer Rates Between Long Term Care Claim Settings," which indicated that 20 percent of all initial home care claims and 8.6 percent of all initial facility claims transferred at some point during the claim. This can significantly impact the expected cost of a claim, especially when the facility and home care benefits are significantly different on a policy. For example, consider a comprehensive LTC policy that covers home care claims at 50 percent of the facility daily benefit amount. If this policy goes on claim in a home care setting, the expected claim cost will be calculated assuming that 50 percent of the daily benefit is paid out each day. But according to the 2009 SOA study, 20 percent of the time this claimant will transfer to a facility and begin receiving claim payments that may be double what they were in the home care setting. If care path transitions are not addressed, the actual-to-expected ratios in a morbidity study may be misleading. In the above example, the actual home care claim costs may be much higher than expected, but only because some claims flagged as home care are actually incurring facility benefits. Building transition logic into the expected model can be time consuming, but it may yield more accurate models.

3. Exposure basis. Does the morbidity assumption apply to an all-policyholder, non-claimant, or non-institutionalized claimant exposure basis? Any assumption must be developed so that it is consistent with the approach used in the projection system (or vice versa). The exposure basis can have a significant impact on the expected claims when a large portion of the population may already be on claim. The table on page 21 provides a hypothetical example demonstrating the size of the error that can result by applying a non-claimant claim cost to all lives.

4. Incurred but not reported claims. When comparing actual claims to expected claims, you may need to make an adjustment to account for incurred but not reported (IBNR) claims. For example, if the experience period of the study is from 2000 through 2011, the most recent calendar year of actual experience may be artificially low because some claims have been incurred but not yet reported to the company. This will make the actual-to-expected ratio artificially low as well.

There are a couple of ways to address IBNR claims in a morbidity study:

- *Gross up actual for IBNR claims.* When using recent actual data in an actual-to-expected study, it's necessary to make an adjustment for IBNR claims. One way of doing this is to gross up actual claims data by some percentage (representing IBNR claims) so that the actual basis matches up with the expected basis. Be aware, however, that some companies include margin in their IBNR claims as an extra cushion in their reserves. Consider whether or not this margin should be reflected in the actual-to-expected study.
- *Use only complete years.* Rather than gross up the actual experience to account for IBNR claims, it may be easier and more accurate to adjust the experience period so that all experience years are fully complete. That is, the experience period includes only years where no IBNR claims remain. This has the advantage of avoiding estimating the impact of IBNR claims and may produce a purer actual-to-expected result, but it has the disadvantage of using an older experience period.

5. Disabled life reserves. Disabled life reserves (DLR) are estimates of future payments to people

who are already known to be on claim. DLR calculations are not discussed here, but they are a function of the amount of time the claimant is expected to be on claim in the future. A claim termination assumption is necessary to produce a DLR. This can become circular if one of the goals of the morbidity study is to determine claim termination rates. If this is the case, a claim termination study should be completed prior to reviewing actual and expected claim costs.

6. Waiver of premium. Most LTC policies contain a provision that waives premium while the insured is on claim. In a company's experience and projections, waived premiums can be addressed by removing the waived premiums from the premium experience, or by counting the amount of waived premium as a claim. Either approach is generally acceptable.

In an actual-to-expected morbidity study, the actual and expected basis must be consistent. That is, if the actual incurred claims include waived premiums, the expected incurred claims must also include an estimate for waived premiums.

7. Adverse selection and benefit reductions from rate increases. A rate increase may prompt some policyholders to lapse or reduce benefits rather than pay a higher premium. Theoretically, these will be healthier policyholders, so the total risk pool becomes less healthy after a rate increase (i.e., adverse selection). This may lead to an increase in claims after the rate increase is implemented. Adverse selection from a rate increase is often difficult to quantify and may take many years to identify and measure, but you should keep it in mind when reviewing actual experience.

Benefit reductions as a result of a rate increase can also cause an issue with actual-to-expected morbidity studies. Oftentimes, when policyholders choose to reduce benefits on their policies, the data warehouse does not "remember" the policy benefits prior to the benefit reduction. The new benefits override the original benefits. This can cause some skewed actual-to-expected results because the actual historical experience represents the higher benefit level, but the expected basis represents the current (reduced) benefit level.

One way to remedy this issue is to link each policy to a prior valuation date and pull in the earlier policy benefits as the "original" benefit level. This way, the expected basis can reflect either the original or current (reduced) benefit level depending on the timing of the rate increase implementation. However, this approach can become time-consuming and unwieldy if the block has had multiple rate increases.

8. Pricing versus sales mix. Pricing LTC policies requires assumptions about the type of business that will be sold, such as gender, marital status and benefit period. When reviewing an experience study, it is prudent to review the distribution of policies actually sold versus the distributions assumed to be sold (and potentially underlying the claim cost assumption).

Consider this simple, hypothetical example: A company prices an LTC policy and assumes that 60 percent of the policies will be sold to married individuals. Further, the company assumes that married individuals have 80 percent of the claims of single individuals. This company develops an expected claim cost basis that reflects these assumptions. What happens if the company actually sells only 40 percent of its policies to married individuals? Assuming the company is spot-on with all of its other assumptions, it will find that actual experience starts running about 5 percent worse than originally expected. This difference occurs not because morbidity is worse than originally expected, but entirely because fewer married policies were sold than originally anticipated.

Benefit reductions as a result of a rate increase can also cause an issue with actual-to-expected morbidity studies.

CONCLUSION

As indicated early in this article, this list is by no means complete and will vary from company to company. Each company, and each actuary, has to decide which issues are material, which issues need to be addressed, and which issues can be ignored completely. A thorough understanding of the company data and the expected basis are essential in making these decisions. The purpose and audience are also essential in determining the depth of the experience study. The more in-depth the study, and the more high-profile the purpose, the more thought must be given to each of the above items—and perhaps many more! ■

Touch-Screen Technology—Benefits and Use in the Geriatric Market

by Paul Burnstein and Andrea Repoff

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Touch-screen devices are part of the answer to bridging the digital divide for seniors. Technology is advancing very quickly, and while it may be easy for those of us who have grown up with computers to use them and adapt to them, what about elders who have never used a mouse before or sent an email? Where does someone start for the first time they are sitting in front of a computer?

Touch screens are readily available as phones, as tablets such as the iPad, and we are beginning to see them on desktop and laptop computers. The ease of use is a major draw; no longer requiring a mouse to navigate, simply select a destination with your finger. Touch screens are making computers easier for seniors to use with large displays and the ability to adjust font size, brightness and contrast so that it is customized for the user.

Other adaptations that help seniors use computers include voice recognition where the user can simply talk to the computer. There are also safety features being built into systems specifically for seniors, including the ability to have a "safe" list for email and filters on websites that disable external links.

The benefits of having touch-screen technology in the home are endless, but in order for the technology to be beneficial, the user must learn and adapt to the available features and functions. With devices that have a telehealth feature to them for monitoring health conditions, a visiting nurse may train the user to navigate the touch-screen device to meet that individual's needs in the home. Other available resources for seniors to learn their device in the home are provided by volunteers arranged by towns, various organizations and local senior centers. It is also worthwhile to check with the vendors themselves to see if they offer training and support.

Following are some examples of computers and interfaces built specifically for seniors.

Care Innovations Guide
http://www.careinnovations.com/products/guide-disease-management

Care Innovations Connect
http://www.careinnovations.com/products/connect-elderly-independent-living

GrandCare Systems
http://grandcare.com/

It's Never 2 Late
http://www.in2l.com/index.cfm

Telikin
http://www.telikin.com/

Linked Senior
http://www.linkedsenior.com/

Family Health Network
http://www.familyhealthnetwork.com/home/index.php/home

Once the adoption occurs and the senior is comfortable with the device, the assistance may begin. Reminders can be set up to alert the seniors to take their medication at specific times, possibly preventing them from forgetting. Communication capabilities are also increased, allowing the seniors to connect with their physicians, their caregivers and, equally as important, their families. Touch screens coupled with graphical/icon-driven interfaces make computers and computer-driven applications, like those listed above, easier and more accessible to seniors.

Technology should assist everyone, including seniors and their families, to stay connected and feel supported. Elder-friendly computer systems, such as touch screens, provide a growing number of benefits to seniors that could support them living independently longer at home. ■

First-Principles LTC—Survivorship

by Bob Darnell

This is the second article regarding the use of first-principles actuarial science to evaluate long-term care insurance (LTCi) policies for the purpose of pricing, valuation and/or projection analyses for active lives and disabled lives. The first article, "First Principles LTC—Restoration of Benefits," appeared in the May 2012 issue of *Long-Term Care News*.

This article investigates the survivorship benefit, its effects and some of the more common options applied to this benefit. The survivorship benefit is commonly sold to couples. When one of the couple dies, the policy for the surviving spouse becomes paid-up, subject to policy limitations. This article refers to some of these limitations as options. They are options selected by the underwriting insurance company that place restrictions on the applicability of the benefit. This article refers to the three most common options as x, y and z. These options are:

x) The survivor must pay premiums for a minimum number of years (even if one spouse has died)
y) Both members of the couple must live at least a certain number of years
z) Both members of the couple must be insured a certain number of years without incurring any claims.

These options are placed to limit the cost of the benefit, and, in some cases, to help limit anti-selection.

This article uses **abbreviations**: ALF (assisted-living facility), ALR (active life reserve, or contract reserve), BP (benefit period), EP (elimination period), HC (home care), IP (inflation protection), LTCi (long-term care insurance), MDB (maximum daily benefit), MLB (maximum lifetime benefit), NH (nursing home), ROB (restoration of benefits) and WP (waiver of premium). The term "care settings" refers to the three principal settings for those receiving long-term care benefits: NH, ALF and HC.

The survivorship benefit is issued to couples. One level of complexity is driven by the status of each insured. For each spouse, they begin as married and both are insured. However, over time, they will all become single insureds as their spouse may either die or lapse. After their spouse has died or lapsed, the status for the remaining spouse may be considered permanent. This article will refer to the three spouse statuses:

1) Married, and their spouse is currently insured
2) Married, and their spouse was issued but has since died
3) Married, and their spouse was issued but has since lapsed.

To determine premiums and initial policy reserves, transitioning from status 1 to either status 2 or status 3 must be considered. Status 1 can be expected to have the lowest mortality and morbidity. If one spouse dies or lapses, the remaining spouse is now a single insured and the mortality and morbidity can be expected to increase. Status 2 will have the next-to-lowest mortality and morbidity. Status 3 can be expected to have the highest mortality and morbidity. For status 1, lapses are commonly around 0.5 percent. For status 2, the lapse rate for the survivor may decrease to a very low rate if the policy limitations for survivorship have been met, and will decrease to zero if the policy becomes paid-up. However, if the policy will not become paid-up, the lapse rates can be expected to increase. The lapse rates for status 3 can be expected to be the highest of the three. Some companies may have enough experience data for each of statuses 1, 2 and 3; other companies may need to combine statuses 2 and 3.

To evaluate the effect and cost of the survivorship benefit, as well as the related reserves (which will not be examined in this article), we will need six sets of mortality rates, lapse rates, claim-incidence (incidence) rates and claim-termination (termination) rates—one set for each gender and status.

In the remainder of this article, we will look at the effect of the three options for males and for females. Initially, we will look at couples of the same age, and then we will consider couples of different issue ages.

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If one spouse dies or lapses, the remaining spouse is now a single insured and the mortality and morbidity can be expected to increase.

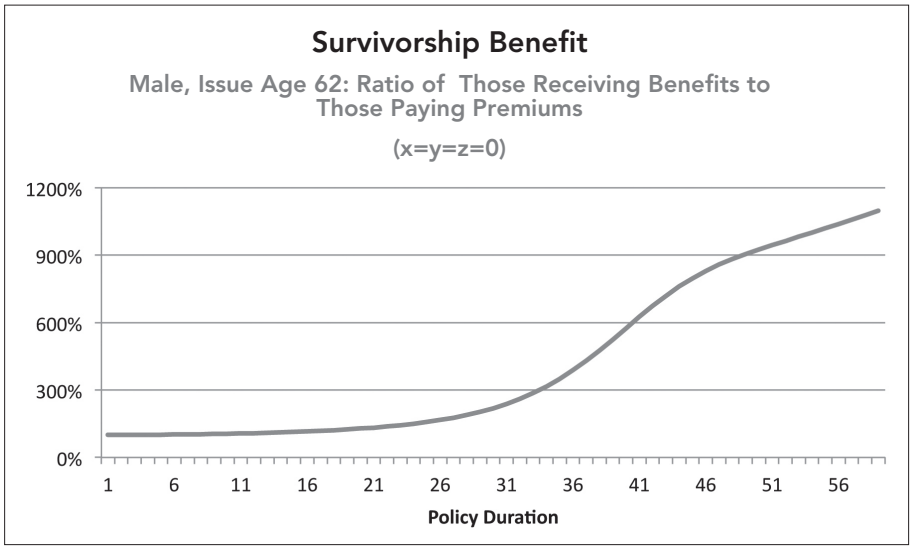
SURVIVORSHIP—NO OPTIONS

As with most insurance plans, the basic objective is to derive expected income and benefit streams. For most health insurance policies, we need assumptions for mortality, lapse and morbidity rates. The survivorship feature is more complicated as each member of the couple has differing expectations depending on whether they are married or single. As we consider each member of a couple, we consider one at a time as the primary insured. The primary insured begins as status 1, and proceeds to a single status through probabilities of their spouse dying or lapsing.

When deriving the payment and benefit streams, the probability of moving from status 1 to either status 2 or status 3 must be determined based on mortality and lapse assumptions and, if option z is in effect, the incidence rates. Using the assumptions for the three statuses, we can derive the probabilities of survival (in actuarial terminology, tpx) for those paying premium and those receiving benefits.

For LTCi policies without the survivorship benefit, the probability of survival for premium payments and benefit payments is the same, and the ratio at all durations is 1. Consider a policy with the survivorship benefit, male primary insured, issue age 62, and x=y=z=0. The spouse is female and issue age 62, as well. The ratio of the survival probabilities for the premium payment compared to the benefit is found in Figure 1. Since x=y=z=0, the curve has the same slope for all benefit periods.

Figure 1. Ratio of Persons Receiving Benefits to Persons Paying Premium



SURVIVORSHIP—WITH OPTIONS

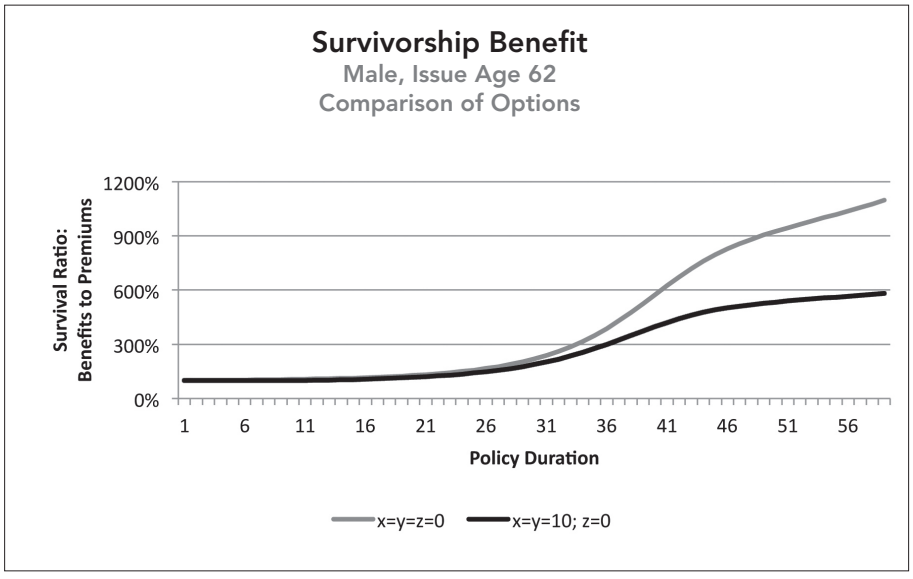
This curve gets sharply steeper around duration 26. The x, y and z options help to level the curve. If we set x=10 (i.e., the surviving spouse must pay premium a minimum of 10 years), the curve is level for the first 10 years (i.e., the ratio between the benefits and premium is 100 percent). After year 10, the curves are identical.

Next we choose to set y=10. Figure 2 compares two curves for the ratio of survivors receiving benefits to those paying premiums: x=y=z=0 (for the higher curve) and x=10; y=z=0 (for the lower curve).

Clearly, the curve has leveled. We can take another step by setting z=10. Figure 3 on page 27 compares two sets of options: x=y=10; z=0 and x=y=z=10.

Although the curves are different, adding z=10 helped levelize the curve only minimally.

Figure 2. Comparison of x=y=z=0 to x=y=10; z=0.



To look at the effect of the x, y and z options on annual premium rates, we will use a base policy that is comprehensive with a single 4-year BP, 0-day EP, no WP, 5 percent compound IP, no ROP, and without survivorship. For each issue age, the base policy at each age has a premium rate of 100 percent. The percentage shown for each option combination illustrates the premium for the policy and options as a percentage of the base policy. Percentages are used, rather than premium rates, to focus on the relative differences between the options. Actual premium rates are dependent upon assumptions used and assumptions are commonly different for each company and each block of business.

Figure 4 illustrates a male primary insured with a female spouse. Figure 5 illustrates a female primary insured with a male spouse. For all, the spouse has the same issue age as the primary insured. In all cases the additional premium for the survivorship benefit is charged for the lifetime of the policy.

For the options x=y=z=0, the premium due to the survivorship option increases consistently with age, as the spouse (with the same issue age) dies more quickly with increasing age. Simply changing the x option to force a minimum of 10 years of premium payment forces a substantial lowering of the survivorship premium at the upper ages. As expected from Figure 3, forcing z to 10 years has little effect.

SURVIVORSHIP—A YOUNGER SPOUSE

To illustrate the effect of a younger spouse, we will look at a limited population of those who have a spouse who is 10 years younger than the primary insured. As above, the illustrations will reference a base policy at the same issue age that does not have the survivorship benefit. Since a given policy at a given issue age will have a rate of 100 percent, the policy with survivorship and various option combinations will illustrate its premium rate when compared to the base policy.

Comparing Figures 6 and 7 to Figures 4 and 5 shows that it can make quite a difference when the primary insured has a younger spouse.

Of course, if one spouse is younger, the other spouse is older.

Figure 3. Comparison of x=y=10; z=0 to x=y=z=10.

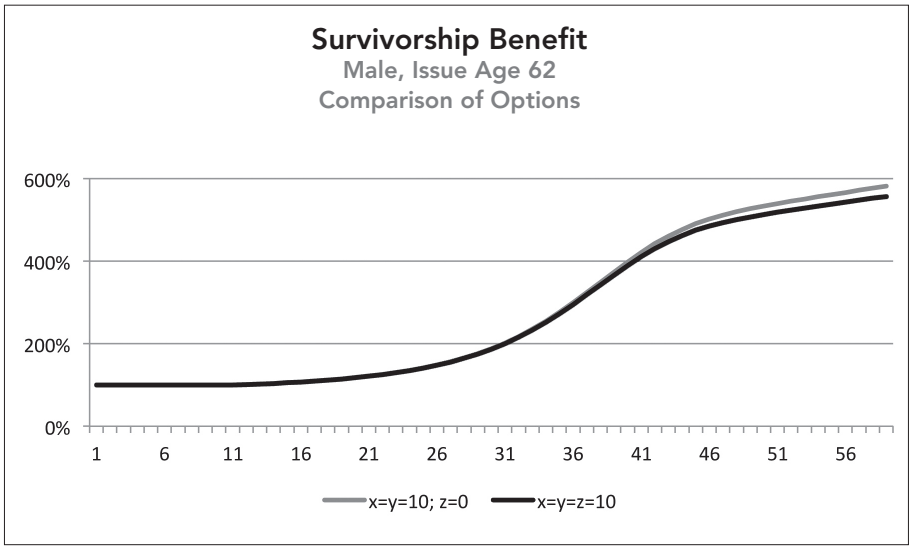


Figure 4. Male Primary Insured (female spouse has same issue age)

Issue	Comparison of Premiums to Policy Without Survivorship			
Age	x=y=z=0	x=10; y=z=0	x=y=10; z=0	x=y=z=10
42	107%	106%	106%	106%
52	111	110	108	108
62	118	113	109	109
72	127	113	106	103
82	138	108	102	100

Figure 5. Female Primary Insured (male spouse has same issue age)

Issue	Comparison of Premiums to Policy Without Survivorship			
Age	x=y=z=0	x=10; y=z=0	x=y=10; z=0	x=y=z=10
42	117%	117%	115%	115%
52	127	124	120	120
62	139	130	119	119
72	155	126	111	108
82	170	114	102	100

Figure 6. Male Primary Insured (female spouse has issue age 10 years younger)

Issue	Comparison of Premiums to Policy Without Survivorship			
Age	x=y=z=0	x=10; y=z=0	x=y=10; z=0	x=y=z=10
42	102%	102%	102%	102%
52	104	103	103	103
62	106	105	104	104
72	109	106	103	102
82	112	104	101	100

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Figure 7. Female Primary Insured (male spouse has issue age 10 years younger)

Issue Age	Comparison of Premiums to Policy Without Survivorship			
	x=y=z=0	x=10; y=z=0	x=y=10; z=0	x=y=z=10
42	107%	106%	106%	106%
52	110	109	108	108
62	115	113	110	110
72	121	113	107	105
82	124	108	102	100

Figure 8. Male Primary Insured (female spouse has issue age 10 years older)

Issue Age	Comparison of Premiums to Policy Without Survivorship			
	x=y=z=0	x=10; y=z=0	x=y=10; z=0	x=y=z=10
42	118%	117%	115%	115%
52	129	125	118	118
62	144	129	117	116
72	176	123	107	103
82	222	111	101	100

Figure 9. Female Primary Insured (male spouse has issue age 10 years older)

Issue Age	Comparison of Premiums to Policy Without Survivorship			
	x=y=z=0	x=10; y=z=0	x=y=10; z=0	x=y=z=10
42	139%	137%	132%	132%
52	160	150	135	135
62	186	153	127	126
72	241	132	108	103
82	310	114	101	100

SURVIVORSHIP—AN OLDER SPOUSE

Complementary to Figures 6 and 7, Figures 8 and 9 assume the spouse is 10 years older than the primary insured. In keeping with the above examples, we will compare premium rates by using a base policy at the same issue age without the survivorship benefit. The base policy has a relative rate of 100 percent, and the policy with survivorship and various option combinations will illustrate its premium rate when compared to the base policy.

At first glance, it might make some sense that the younger and older spouses would counterbalance each other. When Figures 6 and 7 are averaged with Figures 8 and 9, we can see that the average of the two usually does not equal the respective percentage number in Figures 4 and 5. The premium rate for an older spouse increases faster than the premium rate decreases for the younger spouse.

CONCLUSION

The survivorship benefit can be complicated. Possible transitions involve a large number of assumptions. The effect of the survivorship benefit may be quite different based on the issue age of the primary insured as well as the issue age of their spouse. Policy reserves can be expected to show similar behavior.

Due to the effect illustrated in Figures 1 through 3, it is not a matter of calculating a percentage load and applying a factor. Because the relationship between those paying premiums and those receiving benefits changes, a level load will not be effective, or appropriate, in producing the proper reserve. For valuation and projection purposes, the further you move down the duration line (in Figures 1 through 3), the more pronounced this effect becomes. As insureds transition from status 1 to either status 2 or 3, reserves and projections should account for the change in expectations.

Nevertheless, the survivorship benefit can be important and very beneficial to consumers who choose to purchase it. It can provide rate relief at a time when the surviving member of a couple most needs it—at a time in their life when some good news is very much appreciated. ■

Book Review

by Beth Ludden and Jesse Slome

This is the first of a two-part review of the e-book titled *Universal Coverage of Long-Term Care in the United States: Can We Get There from Here?* edited by Douglas Wolf and Nancy Folbre. The e-book is a collection of essays addressing U.S. long-term care policy and issued by the Russell Sage Foundation. A summary of the book offered in the introduction is as follows: "After the high-profile suspension of the Obama Administration's public long-term insurance program in 2011, this volume, the Foundation's first free e-book, includes concrete suggestions for moving policy toward a more affordable and universal long-term care coverage in America." The editors felt it would valuable for those in the LTC section to be aware of the ideas suggested in this e-book to keep the conversation relative to LTC solutions moving forward.

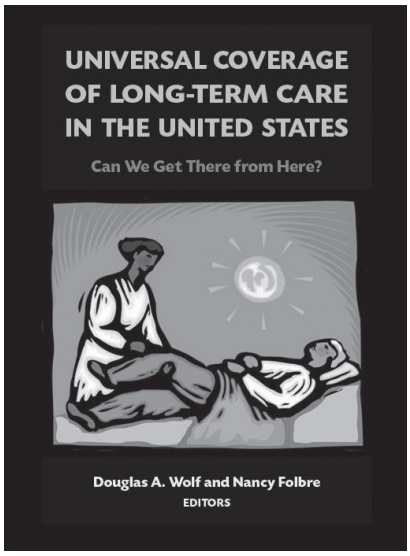
Here is the link to the e-book: *https://www.russellsage.org/publications/universal-coverage-long-term-care-united-states.*

CHAPTER 4

THE CLASS PROMISE IN THE CONTEXT OF AMERICAN LONG-TERM CARE POLICY

By Robert B. Hudson
Reviewed by Beth Ludden

This chapter is not a rehash of the history of the CLASS Act but instead takes the position that its mere inclusion in the Affordable Care Act (ACA) is a watershed moment in the history of the treatment of long-term care in the United States. The piece gives a very short and dismal view of how long-term care recipients are thought of by the general population, government entities and medical professionals. The theory is that because the recipients are disadvantaged and generally without resources, they have no political or social clout and have therefore been ignored. Since they have been broadly ignored they have fallen under the auspices of local community resources and their family. The advent of CLASS, in the writer's opinion, could have changed that perspective and brought the United States into line with other countries who view long-term care as an important "institutional" responsibility. While lauding the CLASS effort, the writer also notes some of the challenges in the structure of the program. Of note is the issue that the program was conceived to be voluntary, which takes it out of the realm of social insurance. As everyone has concluded, the viability of a purely voluntary program is ultimately not feasible. It is interesting that one of the best attributes of the program that is touted in the chapter is the non-means-tested cash benefit aspect of the program. Giving the disadvantaged, frail, elderly and/or disabled a cash benefit is seen as a path for giving this population choice and control that it currently lacks. This newfound "purchasing power" would enable changes in where long-term care services are provided and further drive more community-based opportunities for recipients. Even more important is that cash would promote personal responsibility by virtue of having a work requirement as well as an accumulation requirement before recipients would be eligible for benefits. It was felt by the author that the CLASS program would more clearly delineate the role of government and citizens in providing for funding for long-term care services.



CHAPTER 8

THE LONG-TERM CARE WORKFORCE: FROM ACCIDENTAL TO VALUED PROFESSIONAL

By Robyn I. Stone
Reviewed by Beth Ludden

No discussion of long-term care services and supports is complete without addressing the topic of

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workforce. This chapter is an excellent primer on the topic. Beginning with a description of the various types of care providers, the reader is led down the path of understanding as to why there is an issue. All aspects of the issue are examined. Recruitment—given the negative image of the kind of people who provide long-term care services and the perception of unattractive working conditions, it's hardly the career path of choice despite demand for workers. Layering on inadequate compensation and benefits creates a perfect storm of inadequate staffing to supply an overwhelming need. Stone goes on to tell us why adequate, well-trained staff is essential; she cites several studies that tie the quality of the workforce to the quality of the outcomes for elderly patients.

Suggestions and recommendations are made to address the workforce issues. First is to increase the supply of people entering the field. An example of a step in the right direction: ACA has established a 15-member national commission to review projected workforce needs and to make recommendations around alignment of federal programs to meet those needs. Investment in workforce education and training is also critical, and Stone identifies ways that schools of nursing are finding ways to address the issue. Again, ACA includes some provisions to authorize funding for new training opportunities of direct care workers. Finally, there is the need to make the jobs in long-term care services more competitive with other health care professions. Of key importance is to make benefits available to long-term care providers.

Given that unemployment is still an issue in this country, it appears that building toward more career opportunities in long-term care would be a win-win.

CHAPTERS 6 & 7

POPULATION AGING AND LONG-TERM CARE: THE SCANDINAVIAN CASE

By Svein Olav Daatland
Reviewed by Jesse Slome

LESSONS ON LONG-TERM CARE FROM GERMANY AND JAPAN

By Mary Jo Gibson
Reviewed by Jesse Slome

"I never think of the future. It comes soon enough."—Albert Einstein.

There is a certain peace that comes from ignoring the world around you. It's natural, and in today's parsimonious political environment, it's just too easy to say "enough"—what we are doing is just fine.

But clearly, things are not fine; and, despite the fate of CLASS, the measure was an important building block that helped to make long-term care (LTC) more prominent on the national agenda. While it is unlikely that the United States with a history of private sector health financing and our current "we're better than everyone else" attitude is less likely to adopt a program similar to those already in place in other countries, three chapters in the book are well worth reading as they contain a treasure trove of very recent historical perspective, factual data and fairly straightforward commentary. This is valuable insight for anyone who has an interest in what will, I believe, be used to frame the discussion in the years to come.

Chapter 6, "Population Aging and Long-Term Care: The Scandinavian Case," lays out an interesting look at how various models have been shaped as much by politics and demographics as by societal factors such as family culture. Of particular interest is the consideration of the changing demographic of working women in these countries.

Demographics clearly drove the need to address the issue with Germany and Spain. Their population of persons age 65+ will increase from around 16 percent today to around 30 percent in 2040. In Japan, more than 14 percent of the population will be 80+ in 2040 (double that of the United States).

Chapter 7, "Lessons on Long-Term Care from Germany and Japan," examines and compares two

countries that have instituted programs. Germany's universal LTC legislation passed in 1994 when 15.8 percent of its population was age 65 or older. Japan passed legislation in 1997, when its 65+ population was 15.7 percent. The proportion of U.S. citizens 65+ was 13 percent in 2010 and is expected to be 19.8 percent in 2030.

The author notes, "Germany and Japan adopted many LTC reform goals and policies consonant with their existing structures, funding arrangements, and cultures, and the US is likely to do the same. However, especially in its decision to shift some of the responsibility for care of older persons from the family to the state, Japan does show that major changes are possible. It also adopted its reform in the midst of economic recession."

Both countries have experienced mid-course corrections to address major gaps and problems. When Japan's program was initially developed, almost all of the attention was on caregiving with little attention to spending projections. Germany focused primarily on financing issues and sustainability.

While the author states, "Today, the German and Japanese LTC social insurance systems are demonstrably superior to the US system in terms of access to services and cost to the public purse," that isn't a message that plays well with the American populace more so than ever in our age of political polarization.

What I missed from the chapters was something I suspect existed when each of these countries instituted a significant change to their social welfare programs. Most significant changes evolve slowly until they are propelled by one individual who seizes the moment, who embodies and delivers the message that gains widespread public acceptance. Social Security had FDR; civil rights, Martin Luther King. I suspect that for each country, there was someone who personified the LTC effort. Hearing their story and what messaging they used would have been a valuable component to round out all the factual data.

Because I believe change is constant and inevitable, I want to end my review with another quote, this one from Margaret Mead. "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has." ■

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