



SOCIETY OF
ACTUARIES

REINSURANCE
SECTION

Reinsurance News

ISSUE 84 • MARCH 2016

Reinsurance Girl

PAGE 6

By Mairi Mallon



- 3 Chairperson's Corner**
By Dustin Hetzler
- 4 Editorial: Why the Clever and Lazy Might Make the Best Leaders**
By Ronald Poon-Affat
- 8 Reinsurance Girl**
By Mairi Mallon
- 12 Zika Virus in Brazil: The Insurance Perspective**
By Daniel Zimmerman
- 14 Catastrophic Medical Excess Reinsurance Coverage and Claim Trends**
By Mark Troutman
- 18 Learn Goes Caribbean**
By Michael L. Frank and Larry N. Stern
- 22 Canadian Reinsurance Conference 2016; ReDefining Leadership**
By François Lemieux
- 24 Enhanced Annuities: Caring for At-Retirement Needs**
By Mick James
- 28 Standalone Long-Term Care—Is Now The Time For Reinsurers To Enter?**
By Marc Glickman
- 32 Suicide Facts and Prevention**
By Jason McKinley

Reinsurance News

Issue Number 84 • March 2016

Published by the Reinsurance Section
Council of the Society of Actuaries
This newsletter is free to section members.
Current issues are available on
the SOA website (www.soa.org).

To join the section, SOA members and
non-members can locate a membership
form on the Reinsurance Section Web page
at <http://www.soa.org/reinsurance>.

This publication is provided for
informational and educational
purposes only. The Society of
Actuaries makes no endorsement,
representation or guarantee with regard
to any content, and disclaims any
liability in connection with
the use or misuse of any information
provided herein. This publication
should not be construed as
professional or financial advice.
Statements of fact and opinions
expressed herein are those of the
individual authors and
are not necessarily those of the
Society of Actuaries.

© 2016 Society of Actuaries. All rights
reserved.

Call for Articles for next issue of Reinsurance News.

While all articles are welcome, we
would especially like to receive articles on
topics that would be of particular interest to
Reinsurance Section members.

Please e-mail your articles to
Richard Jennings ([richardcjennings@
gmail.com](mailto:richardcjennings@gmail.com)) or Ronald Poon-Affat
(rpoonaffat@rgare.com).

Some articles may be edited or
reduced in length for publication purposes.

2016 SECTION LEADERSHIP

Officers

Dustin Hetzler
Chairperson

Mary Broesch
Vice Chairperson

Mike Kaster
Secretary/Treasurer,

Council Members

Catherine Bierschbach
Continuing Education Coordinator

John Cathcart
LEARN

George Hrischenko,
Webcast Coordinator

Tim Paris
Marketing and Membership

Ronald Poon-Affat
Communication

Katrina Spillane
Research

Newsletter Editors

Richard Jennings
Ronald Poon-Affat

Board Partner

Gaetano Geretto

SOA Staff

Jim Miles, Staff Partner
e: jmiles@soa.org

Leslie Smith, Section Specialist
e: lsmith@soa.org

Sam Phillips, Staff Newsletter Editor
e: sphillips@soa.org

Ronora Stryker
Staff Research Actuary
e: rstryker@soa.org

Erin Pierce
Graphic Designer
e: epierce@soa.org

Standalone Long-Term Care—Is Now the Time for Reinsurers to Enter?

By Marc Glickman

The LTCi industry has transformed in just the past few years. Premiums on products sold today are double what they were on the same benefits from eight years ago as carriers are now pricing based on more conservative assumptions. In fact, some assumptions have little or no remaining downside risk. Yet, the average sale price has changed little as consumers have opted for shorter benefit periods and lower inflation increases. The more conservative pricing not only makes the product safer for insurers and their reinsurers, but also makes the premiums more stable for consumers.

Thanks in large part to the underlying demographics of the baby boomers and the limited penetration of the potential LTCi market, there remains untapped demand for upper middle and upper income consumers. Yet there is significant reluctance to enter this market from insurers who have seen peer carriers exit due to underperforming product designs of two and three decades ago. As a result, many insurers have chosen instead to offer the appearance of LTC protection by attaching living benefits to their life and annuity policies.

Thus, the question becomes, can we quantify the safety of LTCi new business sold today so that insurers can get comfortable with the risk in order to meet the demand, and more importantly for reinsurers, is this an opportunity to lead the revitalization of the LTCi industry?

SOA LTC SECTION PRICING STUDY

The SOA Long-Term Care Section has recently completed a study providing the best evidence yet, that there is significant, and mostly unrecognized safety, in current industry pricing. In fact, with low interest rates creating an environment where too much capital is chasing too few insurance opportunities, reinsurers have a chance to deploy their excess capital and generate returns that are far in excess of the actual risks. The Pricing Study addressed these questions: For standalone LTCi, how stable are premiums on new blocks? What was the probability of a rate increase, for policies issued in 2000, 2007 and 2014, using the data that was available in each of those time periods? If a rate increase does prove necessary, how much would be needed? And

finally, what is the remaining downside exposure of each of the assumptions in use today?

Six of the largest insurers, selling LTCi now as well as in 2000 and 2007 participated in the study. Each company provided the SOA research department with its actual pricing data for December 2000, December 2007 and June 2014. The SOA then combined the data from these six insurers to arrive at average industry pricing assumptions. The study examined the likelihood of key pricing assumptions underperforming expectations.

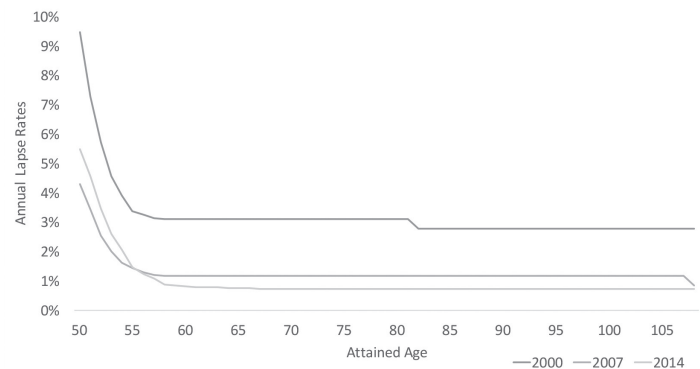
ASSUMPTION ANALYSIS

The key assumptions for LTCi product performance are voluntary lapse, mortality, morbidity, and interest rates.

LAPSE RATES

The voluntary lapse rate assumption has historically been the biggest contributor to the underpricing of legacy products. This is because LTCi is lapse supported. Policies that lapse release active life reserves subsidizing the claim costs for the remainder of the risk pool. For legacy policies, far fewer policies lapsed than expected, resulting in many more policies remaining in force to incur LTCi claims at advanced ages. On average, LTCi insurers used 3 percent annual ultimate lapse rates in pricing new products in 2000, but only used 0.7 percent lapse rates in 2014. Since the current assumption is approaching the absolute limit of 0 percent lapse, there is virtually no future voluntary lapse risk for new business pricing.

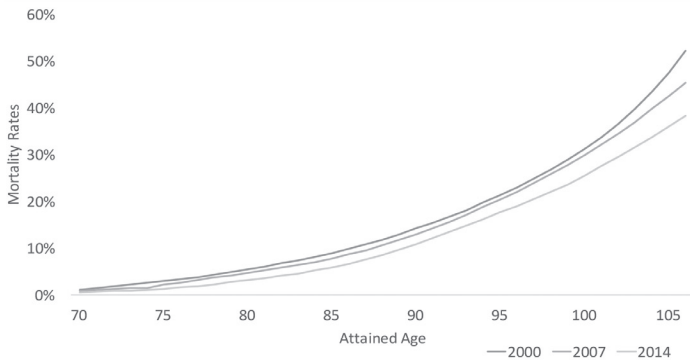
LAPSE RATES—BP: 3-YEAR, IP: 5% COMPOUND



MORTALITY RATES

Mortality has the same lapse supported effect on LTCi claims as voluntary lapses. Pricing in 2000 used the 1994 Group Annuity Mortality table, which was made somewhat more conservative by the use of underwriting selection factors. Pricing in 2014 used only 70 percent of the 1994 GAM table, with even more underwriting selection.

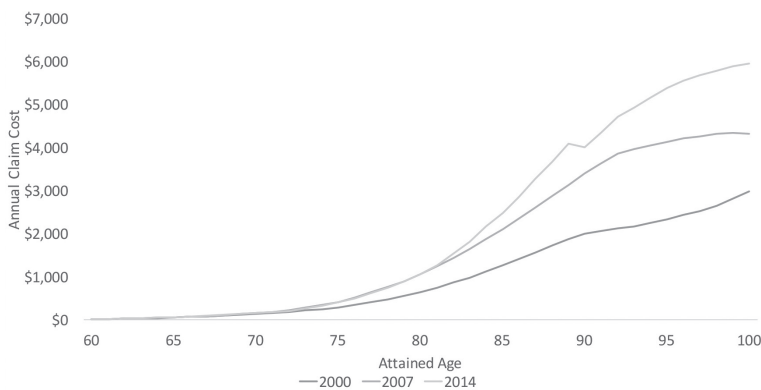
MORTALITY RATES



MORBIDITY RATES

The annual claim cost assumption has had much less impact on pricing, compared with the other assumptions. However, this assumption, has been changed to more conservative levels as insurers have become more risk averse, as well as due to regulatory changes that encourage more conservative pricing. From 2000 to 2014, the claim cost assumption used in pricing has increased by roughly 25 percent overall. Incidence rates (frequency) have proven to be slightly less than assumed over time, but continuance rates (severity) have lengthened, particularly at older attained ages, where the data is still more limited. From the recent LTCi Experience Study, the data shows that carriers with Full Underwriting had much better incidence experience than carriers without. As a result, underwriting standards have universally tightened, with medical records, prescription drug checks, cognitive screens, and MIB all being used more frequently. Also, higher standards are required to qualify for the best premium ratings class.

CLAIM COSTS—BP: 3-YEAR, IP: 5% COMPOUND



MORTALITY AND MORBIDITY IMPROVEMENT

There is evidence that mortality and morbidity improvement is occurring together within the population. There is

less data on insured lives though, as it is difficult to separate the effect of improvement from changes in underwriting protocols. However, mortality and morbidity improvement move together because they tend to be driven by the same underlying health impacts. The effect of a simultaneous 1–2 percent annual mortality and morbidity improvement has an approximate reduction of 0.5–1 percent on claim costs compounded every calendar year. Most companies assume no improvement in either morbidity or mortality as a conservative approach to modeling this combined effect. Since more than half of LTCi claim costs are driven by Alzheimer’s or related dementias, claim costs would be significantly lower than priced should a breakthrough occur in treatment or prevention of this disease.

INTEREST RATES

Investment income is a key pricing factor, as the peak of claim payments occur about 40 years after issue. There is significant asset accumulation prior to this period, so investment rates achieved 20–40 years out from issue have the most impact on pricing. New pricing assumes that long duration investments will earn only what can be achieved in today’s low interest rate environment. While it is possible that the low interest rate environment will continue to persist, it is likely this will change sometime in the next 20–40 years. Even if low interest rates remain indefinitely, the downside risk is limited by the floor on the rates demanded by investors for bonds that entail credit and inflation risks. The rates used in pricing products in 2000 were 1.8 percent higher than the rates in products priced in 2014.

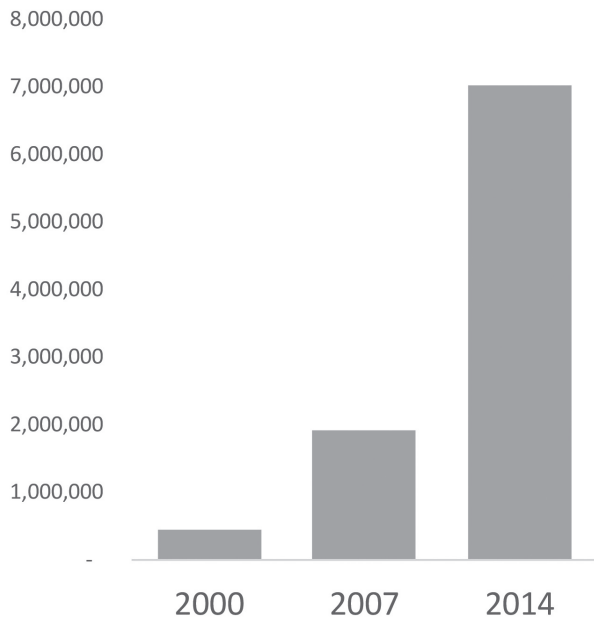
YEAR	Average Industry Investment Income Assumptions
2000	6.4% all years
2007	5.9% all years
2014	4.6% all years

ASSUMPTIONS SUMMARY

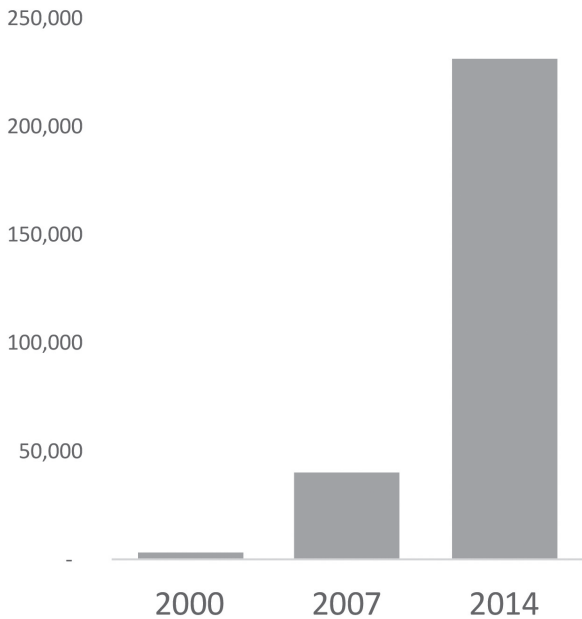
It is especially notable that, since 2007, all of the major LTC assumptions used in pricing have become more conservative. Lapse rates have been virtually de-risked, interest rates are at historical lows, while mortality and morbidity reflect more conservative best estimates with deliberate additional margins where there is less experience. Perhaps most importantly, there is 16 times as much policy data overall since 2000 and 70 times as much claims data for seasoned policies at attained ages 80+ that have been in force for 10 or more years.

Companies are also pricing the past uncertainty into today’s rates by increasing the margin for adverse deviation, a concept that was mandated by regulation by 2007 and 2014. This margin also improves the return profile, should the products perform as expected.

POLICY-YEAR'S OF DATA



ATTAINED AGE 80+ AND POLICY DURATION 10+



Companies not only have more data to support pricing, but also have more confidence in the product designs, leading to better outcomes. A large percentage of products sold in 2000 and 2007 paid an indemnity or disability-style benefit, which resulted in anti-selective utilization. Nearly all products sold in 2014 pay only on a reimbursement basis. Other changes, include tight-

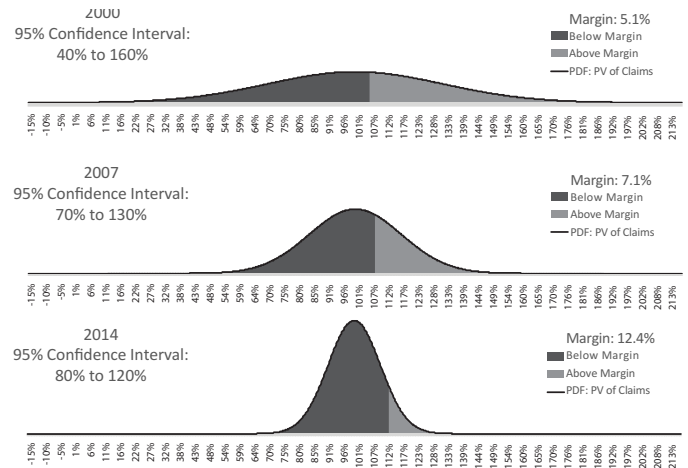
ening of the policy language to prevent abusive utilization of benefits for assisted living facilities, waiver of premium, and restoration of benefits.

SIMULATION OF OUTCOMES

The SOA research team used a stochastic simulation to model potential outcomes based on the pricing assumptions used at each of the three points in time: 2000, 2007 and 2014 with no 20/20 hindsight. All of the simulations were run using the same calculations and distribution of policies. Three random variables were chosen for claim cost, lapses, and mortality along with variance parameters for the quantity/credibility of data and the possible range of outcome for each variable.

The range of simulated claim costs compared to expected claim costs were then examined. In 2000, given what was known at the time, expected claim costs had a variation of +/- 60 percent with 95 percent confidence and a margin of 5.1 percent. In 2007, the variation reduced to +/- 30 percent with 95 percent confidence and a 7.1 percent margin. In 2014, the range of outcomes further reduced to +/- 20 percent with 95 percent confidence and 12.4 percent margin.

PV CLAIMS AS PERCENTAGE OF EXPECTED PV CLAIMS



This increase in confidence is also reflected in the range of new business prices. In 2000, there was a spread of 200 percent between the most expensive and least expensive products with the same benefits. By 2014, this differential was only 145 percent.

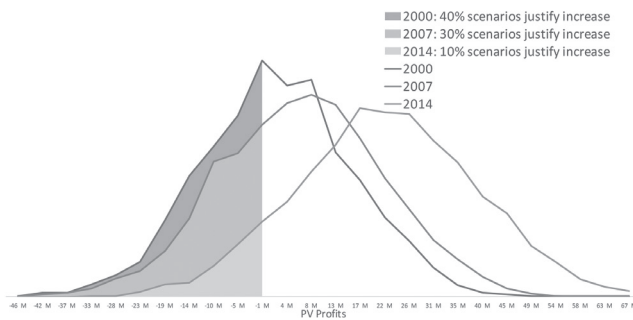
YEAR	Average Industry Premiums for the Same Benefit Amounts
2000	100% baseline for 2000. Highest premiums were 200% of lowest.
2007	125% higher than 2000. Highest premiums were 160% of lowest.
2014	215% higher than 2000. Highest premiums were 145% of lowest.

PREMIUM STABILITY

Given the more conservative assumptions in 2014, what is the likelihood that the testing scenarios have significantly reduced profits, implying the need for a rate increase? Similarly, what was that likelihood in 2007 and 2000? The study concludes that 40 percent of scenarios would justify a rate increase in 2000 compared to 30 percent in 2007 and only 10 percent in 2014. Of the scenarios that require a rate increase, the amount needed to bring the block back to break even is much lower and within the tolerance range for consumers and regulators.

frequently occurred after major natural disasters. This has led to the creation of reinsurers that got their initial boost from the absence of traditional insurers being willing to operate in that space, many of whom continue to thrive to this day. It appears likely, that the same type of hard market exists now in long-term care insurance, with the opportunity for those reinsurers with the resources, expertise, and courage to reinvigorate this much needed product. ■

PROFITABILITY FOR ALL SCENARIOS



Marc Glickman, FSA, MAAA, is vice president, Investments and Business Development for Lifecare Assurance Co. He can be contacted at marc.glickman@lifecareassurance.com.

Issue Year	Prob Rate Increase	Average Projected Increase
2000	40%	34%
2007	30%	18%
2014	10%	10%

PROFIT POTENTIAL

Despite the current more conservative assumptions, higher risk margins, tougher underwriting, and greater level of confidence in the data and the product design, insurers are demanding higher expected returns from the product. In 2000, the product was incorrectly viewed as predictable, safe and high growth with 10 percent IRRs viewed as sufficient. By 2014, 25 percent IRRs are common with significantly higher expected returns available for those features with more variable outcomes and greater risk margins.

YEAR	Average Industry Pricing Margins
2000	10% of premium, 10% IRR
2007	11% of premium, 15% IRR
2014	13% of premium, 25% IRR

CONCLUSION

In insurance markets that are either new, or have suffered losses, it is often the reinsurers who lead the charge and capitalize on the opportunity, by backstopping the direct carrier's reticence to go it alone. In the P&C world, these so called hard markets have



SOCIETY OF ACTUARIES

475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
p: 847.706.3500 f: 847.706.3599
w: www.soa.org

NONPROFIT
ORGANIZATION
U.S. POSTAGE
PAID
SAINT JOSEPH, MI
PERMIT NO. 263

