



SOCIETY OF  
ACTUARIES

REINSURANCE  
SECTION

# Reinsurance News

ISSUE 84 • MARCH 2016

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# Reinsurance News

## Issue Number 84 • March 2016

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### 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 ([richardjennings@  
gmail.com](mailto:richardjennings@gmail.com)) or Ronald Poon-Affat  
([rpoonaffat@  
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Some articles may be edited or  
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# Chairperson's Corner

By Dustin Hetzler

**H**appy Holidays from the Johnson Family! We had a wonderful 2015. Let me share some of the highlights: little Johnny got straight A's while finishing fourth grade. During the summer he won the "most outstanding camper" award at his summer technology camp for early middle schoolers. Jane didn't do so badly herself, finishing eighth grade with many academic awards and entering high school this past fall. She also continued the family tradition of getting straight A's, and even made the varsity cheerleader squad as a freshman. Amazing!!!

During this past year, we Johnsons were also fortunate enough to take a number of family vacations. We started early in the year with a spring break trip to Hawaii, where we saw an active volcano along with many other educational and sandy things! During the summer we made our way to Europe, where we traveled to many historical sites and gained several cultural experiences. During Johnny and Jane's fall break, the Johnsons made our way to Washington, D.C., where we spent days walking The Mall and visiting all the museums. What a wonderful experience, and so close to home!

I wish you and yours a happy holiday season and hope the New Year will be wonderful for us, and for you!

This may seem an unusual way to start my first chairperson's corner article. As I write this article, it is mid-January 2016. I am coming out of the holiday season and starting the new year, and the Society of Actuaries Reinsurance Section Council (RSC) just held an in-person 2016 planning meeting.

It is hard not to relate this RSC planning meeting and its discussion of expectations for the coming year to the holiday season that just ended. Let me explain. During the season, on a daily basis, my family's mailbox is filled with holiday cards. Many include a letter from one of the parents describing the amazing accomplishments of each family member during the year; similar to the fabricated accomplishments in the opening two paragraphs of this article (to protect the innocent, of course!).

During the meeting, council members spent the day planning our goals for the year, focusing on what content to deliver and

how best to deliver it to our members. I was particularly pleased with our ability to be specific about the types of information we plan to deliver as well as how we actually plan to go about the execution! It is our intention to have such a successful year that during the holiday season, we can distribute our own "letter" describing all of our outstanding 2016 accomplishments in great detail. Stay tuned ...

Each year, the SOA, carries out its mission (which is primarily focused on education and research) through its many volunteer committees, sections and other groups. We at the RSC focus on actuarial meeting program development, research projects, webcasts, newsletters, and other programs. The RSC will be continuing to contribute robustly to the SOA's many activities and initiatives in 2016. We will be actively involved in planning numerous sessions at the SOA's annual Life & Annuity Symposium, the Health Meeting, the Valuation Actuary Symposium, and the Annual Meeting. We will also be involved in research projects covering topics such as predictive analytics and conversion mortality and in visits to state regulator offices as part of our LEARN program. In addition, we plan to host another Reinsurance Boot Camp in 2016.

It would not be appropriate for me to mention the SOA's LEARN program, which stands for Life Education and Reinsurance Navigation, without mentioning specifically the significant amount of time our volunteer coordinators and presenters have given to execute this effort. For this we can primarily thank six individuals: Michael Frank, David Nussbaum, and Tim Robinson, who cover health topics; and Larry Stern, Jeff Katz, and Mike Kaster, who cover life topics.

These ongoing and new programs and initiatives enable the RSC to make a significant contribution to the ongoing mission of the SOA. I am already looking forward to writing the RSC's 2016 holiday season letter that will describe all of our major accomplishments! ■



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# Editorial: Why the Clever and Lazy Might Make the Best Leaders

By Ronald Poon-Affat

“Everyone knows the story of the traveler in Naples who saw 12 beggars lying in the sun (it was before the days of Mussolini), and offered a lira to the laziest of them. Eleven of them jumped up to claim it, so he gave it to the 12th. This traveler was on the right lines.”<sup>1</sup>

While this article’s headline may be anathema to this newsletter’s readership, before you take umbrage to the assertion that laziness may be the best road to the C-suite, let he who is with a TV remote control be the first to channel surf manually.

## GROUPS OF PEOPLE

A Business Insider article I read provided the kernel for this piece.<sup>2</sup> The article discussed a concept that suggested people can be divided into groups based on these four characteristics: clever, stupid, lazy, and diligent.

At first glance, it might seem like being clever and diligent might be the best combination one could hope for if one has aspirations to be invited to join the board room. However, clever and diligent workers might be more likely to follow instructions and work hard at what they’re told to do rather than to lead.

The diligent and stupid will work hard and get a lot done, but they need direction, or havoc will ensue. The lazy and stupid

are generally those who do repetitive work requiring little thought—work that can easily be outsourced, or at least, mechanized.

Then we have the so-called clever and lazy. These people often have the following characteristics:

- They desire to make everything simpler and easier.
- They avoid “busywork” (e.g., pointless meetings and teleconference calls).
- They don’t micro-manage and centralize, but are comfortable with delegating in order to get things done.
- They focus on the essentials of what’s really required to move forward, rather than being distracted by unnecessary noise that will have an immaterial effect on the final result.
- Those who are clever but lazy tend to question existing processes and look for ways to streamline their work rather than simply getting it done.

Sound familiar? It should.

These clever and lazy folks, many times, are actually more efficient and productive because of these very traits. Ultimately, they’re usually better leaders than they might have been in more routine, low-level positions.

Here’s a nice matrix that summarizes these categories.

	Diligent	Lazy
Clever	Experts	Leaders
Stupid	Fire	Outsource



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"I suppose you seldom think. Few people think more than two or three times a year. I have made an international reputation for myself by thinking once or twice a week."

— Bertrand Russell

## THE DEVELOPMENT OF ACTUARIAL MATHEMATICS

Just like Fatboy Slim's best-selling 1998 big beat album grooved, it's safe to say "we've come a long way, baby!" I shudder to imagine the lengthy calculations Equitable Life's UK actuarial students might have had to undertake in 1762.

Since then, the basic work has steadily become more efficient: the development of adding machines in the mid-19<sup>th</sup> century; the development of commutation functions and other approximate calculation methods; moving calculative work from machine, to mainframe, and then to personal computers linked to servers, which facilitated the development of today's spreadsheets and standard computational software.

To whom might we owe the enormous debt for our unshacklement from the misery of number-crunching? It might just be some of our clever actuarial forebears, who developed more and more expeditious ways to free us from toiling like soldier ants.

Some notables in actuarial history include:

- Edmond Halley (1656-1742), who not only discovered the comet that bears his name but also constructed one of the first life tables.
- James Dodson (1705-1751), the British mathematician and actuary who developed statistical mortality tables that built on Halley's work, which subsequently became the basis upon which the Equitable Life Assurance Society was founded.

- Clergyman and mathematician Richard Price (1723-1791), a man deeply involved in the revolutionary causes of his day (the American and French Revolutions), who introduced the concept of values of contingent reversions and devised the proper method for their calculation.
- Benjamin Gompertz (1779-1865), a self-educated mathematician whose Gompertz function, which continues to dependably describe age-dependent mortality, is an integral piece of the Gompertz-Makeham law of mortality.

Could these notable actuaries and thought leaders perhaps have been just a tad lazy? Of course this is not a fair accusation, as they are not around to defend themselves. Bottom line, however, it depends how one wishes to define lazy. In all likelihood, these historical figures were driven to figure out how to do things efficiently, and they took the time to think, which to some might have seemed lazy, but enabled them to accomplish their great deeds.

## A FINAL THOUGHT

Henry Ford once hired an efficiency expert to go through his plant. "Find the non-productive people," Ford said. "Tell me who they are, and I will fire them!"

The expert made the rounds, clipboard in hand. Returning to Mr. Ford's office, he said, "I've found a problem with one of your administrators downstairs. While everyone is busily working, he is sitting with his feet propped up on the desk, twirling a rubber band between his thumbs. I think you should consider getting rid of him!"

Henry Ford shook his head. "I can't fire him," he said. "Last year, that man came up with some ideas that saved the company over a million dollars. And if I'm not mistaken, he was sitting at his desk in that very same position!" ■



Ronald Poon-Affat, FSA, FIA, MAA, CFA, is editor of the Society of Actuaries' *Reinsurance News* newsletter. The views expressed praising laziness are solely his own and does not reflect the views of either his employer or the Society of Actuaries.

## ENDNOTES

- <sup>1</sup> Bertrand Russell, in his essay "In Praise of Idleness."
- <sup>2</sup> A 2012 post by *Business Insider*, titled "Why Clever and Lazy People Make Great Leaders," discusses a concept that originated in 1930s Germany to describe military officers.



# LIVING to 100

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Registration for the 2017 Living to 100 Symposium will open soon. This prestigious event on longevity brings together a diverse range of professionals, scientists and academics to discuss:

- How and why we age;
- Methodologies for estimating future rates of survival;
- Implications for society, institutions and individuals;
- Changes needed to support an aging population increasing in size;
- Applications of existing longevity theories and methods for actuarial practice.



# Reinsurance Girl

By Mairi Mallon

*@Reinsurancegirl*. It is a catchy name which gets remembered. With a large following on Twitter and well-read blog, reinsurance girl—aka Mairi Mallon—tells us about why she has had such online success, and gives some pointers as to how we can all get digital.

I never started out to be a (sector-specific) mini-phenomenon on social media. Back in 2008, when my husband Stephen Breen and I set up rein4ce, a niche public relations company serving insurance and reinsurance companies, neither of us knew anything about social media apart from the odd dalliance into Facebook.

Back then, there was very little sensible business-to-business interaction online, and the dialogue was dominated by so-called “social media gurus”—to me a bunch of kids barely out of school in skinny jeans advocating “fun” stuff to do to sell your products. None of it resonated with the sober financial services sector we worked in, or demonstrated any thought leadership (or much thought at all).

“It still makes me laugh when at a conference or talk, I’m stopped and people say in awe, ‘you’re reinsurancegirl!’”

What we did realize, even back then, was that social media had the potential to be an extremely powerful communication tool—and that these channels weren’t going away. As a communications company, we realized that we had better learn how to use these tools properly otherwise we would be going out of business.

The first few times I tried Twitter, I wanted to throw my computer out of the window. LinkedIn seemed very spammy, and Facebook full of lifestyle pictures. Very few blogs resonated at all.

But we persevered, found blogs like that of Bill Marriott, the silver-haired patriarch of the Marriott hotel chain, who interspersed congratulatory blogs on his staff with his critiques of restaurants

and bars he had been to on his travels. Who would not be interested in what he would say about that? When I called his team to find out about it, I found out he used a Dictaphone on his many plane journeys across the Atlantic to speak about his experiences. Back at HQ, someone would type them up, tidy them up and post them. This was something of a Eureka moment—the realization that any executives, even in the rather staid world of financial services, could also use social media effectively.

I remember hitting 50 followers on Twitter and being super excited. Finding out what a hashtag is was revolutionary (a hashtag helps people sort of bookmark themes—check out #reinsurance #epic-fail #rims2016 #actuary). Discovering Hootsuite helped me control and sift through the vast amounts of information that was pouring in, and schedule the data that I was putting out.

We experimented with content on our blog, and worked out ever better ways to share it. We collaborated with others in our profession trying to find a way through this communications blind spot—we emailed and chatted on the phone, met up, and scratched our heads. Professionals who would normally be rivals put aside their differences to collaborate on global projects to promote insurance and reinsurance. Even actuaries got in on the scene. Check out the “What Is An Actuary Song” on YouTube posted in 2010 for a laugh. And so, the small community has grown, our knowledge has expanded and developed together, and those of us who started out back then are now called on by those trying to make sensible decisions on what looks like an uncontrollable form of communication.

It still makes me laugh when at a conference or talk, I’m stopped and people say in awe, “you’re reinsurancegirl!” I don’t tweet about much apart from insurance and reinsurance, and—confession time: I’ve not blogged in an age (watch this space, new website and blog postings coming soon), but the following is strong and people remember who I am. I’m up to just over 7,500 followers on Twitter (which gives me a better readership than some of the trade magazines). I have nearly 2,000 connections on LinkedIn and when I blog, we get an extraordinary number of visitors to the rein4ce website, who stay on the site on average for 4.5 minutes—and that is a lot of time, by the way.

There is no other way I could have built up such a strong brand without social media. I run a small public relations team in a relatively neglected part of the financial services sector.

So. Here is a guide to your own social media success:

## PERSONAL BRANDING

I hate the term “personal brand,” but it does capture what you can do if you are focused on what you do. You can increase your personal profile on social media in a way that really would be impossible to achieve without a large wedge of money and a lot of effort.



Get on, Google yourself, tidy up your profiles. If you don't have them, get them—on LinkedIn and Twitter at the very minimum. Make sure you have a good picture and a summary that explains what you do. Think of your summary as a searchable CV, so make sure it is peppered with industry-specific information that might help someone in your sector find you when searching online. When you post, make sure it is material that is relevant to your audience. In the same way you would dress in a certain way for your job, make sure you look good online. People really notice. And check what your company says about rules of engagement—they may even help you get to where you want to be.

#### BIG CORPORATES ON SOCIAL

If you are not there ... oh where do I start? From a risk management perspective, it is damaging to not have at least bookmarked your pages, decided a company-wide strategy, engaged HR and have integrated social into your crisis communications strategy. How do you know what is being said about your brand if you are not part of that world? Check out epic fails such as BP in the Deep Water Horizon disaster when they went by the book on traditional media and got wiped across the floor on Twitter. Check out epicfail campaigns such as #coalisamazing in Australia to show you what happens in this space without common sense or a decent plan.

There are many, many great corporates using social to get their message direct to their desired audiences. Some are using Twitter to manage customer complaints and reach journalists, while others are using blogs to showcase their executives' expertise without having to go through an ever-less well read traditional press. And take your message directly to your audience with LinkedIn.

#### WHICH TAKES ME ON TO ...

Why are you doing this? And what do you want to say and who do you want to say it to? These are the basic questions I always ask about any communication—whether done in traditional formats or online. They sound simple, but they are not. For me it was simple—I wanted to increase my understanding of the platforms, promote my then new company, and at the same time prove my own and my company's knowledge and expertise in communications in reinsurance to insurance and reinsurance professionals and to the people who serve them. In other words, if we were claiming to be communications experts we had to demonstrate we knew how to use the tools.

For corporations, it may be to raise profile, to talk to regulators, ratings agencies and governments, to other "stakeholders" (another bit of jargon I'm not fond of) or existing or potential clients.

For individuals, it may be to talk to peers or customers—or potential customers—and show your expertise.

#### PLANNING AND GOALS

After you work out why you are doing something, plan out what you want to do. Set timelines, goals, budgets—get your strategy right and it will serve you well in the long run. If you have a budget of \$500, \$5,000 or \$50,000 it will vastly change what you can do online. No budget? Find one. Take the cost of something else and allocate it. Communicating is vitally important today, and how you do it will affect you, your career and your company. Just because it is social, does not mean you don't have to allocate time and money to it. Believe me, you will need to spend a bit of money getting

this right. Then set up at least a six-month schedule—preferably a year—and decide what you would like to achieve in that time and who you would like to reach.

#### WHAT DOES SUCCESS LOOK LIKE?

Once you have done the budgeting, planning and setting your goals, decide on what success to you will look like. And be realistic—don't set yourself up to fail. Measuring the impact of something like a social profile is hard to do and the number of "likes" and followers may be a false metric. Your goal may be to reach a certain sector—have you reached them? Has your reputation and profile grown? Have visits to your website increased? Have you pulled in more business as a direct or indirect result of your profile-raising?

#### DON'T FORGET THE DAY JOB

Social media, for some people, can become a bit of an obsession. Try not to let it. Learn to make it part of your working day, in the same way answering phone calls or doing emails is. Or allocate 20 minutes in the morning. There are tools that can help with the time-suck. Hootsuite can schedule your tweets and postings and help sift through the myriad of information out there and just bring in what you need to read. If done properly, it should save you time, get you more up-to-date information in real time, and help you connect with more people around the world. If done well, it can help your career and your business should see the benefit of it.

#### REMEMBER WHAT WORKS

Twitter can be a huge distraction. But time and time again, I hear that while many people and organizations spend a lot of time and money on leveraging this platform, the simple truth is that there are many, many more insurance, reinsurance, risk management and actuarial people on LinkedIn. And they are paying a lot of attention. So check your analytics and your numbers and remember what works—and focus on that.

#### DON'T FORGET BUSINESS ETIQUETTE AND REGULATION

There is a basic rule of thumb. Don't post anything you would not want your mum to see or your boss to read. The same rules that govern our society and our working lives, govern social interaction. Don't talk about race, religion or politics. Remember in the U.S. about the rules on marketing your services. Don't disclose any proprietary information. Ask people permission to post pictures of them. Don't tell any work secrets ... Don't get fired. Learn the rules of engagement. Don't get in an argument online. Just pay attention and be a grown up professional. Cleverer people than you have run amok. If in doubt, ask your line manager or HR. Or if you have that nagging feeling before posting ... simply don't post.

#### QUALITY

Like most things in life, you get back as much as you put in. This does not mean being online all the time or becoming super social

overnight. Post quality. When once a year Warren Buffett does his letter to shareholders, we all stop to read it. Imagine if he did 12 tweets a year. We'd all read them. Make sure you are posting quality information that people want to read. If you do that, you may just nail this social media thing.

#### A FEW POINTERS

- Read and listen before posting: understand the tone of the people who are reading your stuff.
- Don't just share your own material. Even if you are trying to be helpful, this can come across as spam. Remember the 7:2:1 rule: out of every 10 posts, seven should be helpful to the general audience without being spammy, two can refer to your own material, and one can be a blatant plug for your product or services.
- Avoid being negative. As a rule of thumb, don't engage in fights, talk about religion, politics or race.
- Schedule material out. Don't send 10 updates all at once. Space them over a day or a week or a month.
- Online content is considered fresh for approximately eight hours.
- Don't just be online when you want something. The more you participate in a community, the more authoritative you will be seen to be.
- If sharing text, do you have any video and imagery to go with it? Do you have it in various languages?
- What are your definitions of success for engagement?
- Are your personal or business goals aligned with it? ■



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# Zika Virus in Brazil: The Insurance Perspective

By Daniel Zimmerman

The recent outbreak of the Zika virus in Brazil and in at least 29 other countries and territories is a stark reminder of the risks associated with new, emerging, and re-emerging infectious diseases.

This article is intended to provide essential background information on the Zika virus in order to assist insurers' understanding and risk assessment of the situation.

Insurers must continually stay abreast of these risks and rapidly assess the potential impact on morbidity and mortality—often with only preliminary scientific or actuarial data.

## ZIKA VIRUS IN BRAZIL

The Zika virus was initially isolated in 1947 in the Zika Forest of Uganda, and the first human case identified in Nigeria in 1954. A member of the Flaviviridae family of viruses, the Zika virus is related to the category of viruses that include those known to cause yellow fever, dengue, Japanese encephalitis, and West Nile disease. It is transmitted to humans primarily by at least one species of *Aedes* mosquito, which inhabit large portions of the world and are known to be aggressive daytime biters. Transmission has also been documented through blood products and sexual contact.

For half a century, Zika was known to cause only mild, sporadic human outbreaks, which only occurred in Africa and Asia. However, in 2007, a Zika fever epidemic occurred in Yap Island, Micronesia, which was followed in 2013 by a large Zika epidemic in French Polynesia.

Then, in early 2015, patients in Natal, Rio Grande do Norte, on Brazil's easternmost tip, began to present with symptoms of a dengue-like syndrome. However, these individuals tested negative for dengue, and for Chikungunya, as well. Further analysis revealed the presence of Zika virus RNA, specifically of the Asian sub-type.

It has been speculated that the Zika virus arrived in Brazil from attendees of the World Cup in 2014; however, genetic testing of the virus in Brazil has shown that it may have come from French Polynesia during the August 2014 Va'a World Sprint Championship, the annual Polynesian canoe race which was hosted by Brazil that year.

## CLINICAL FEATURES, TREATMENT, AND PREVENTION

Fever, rash, joint and muscle pain, fatigue and conjunctivitis are the primary symptoms of Zika for infected individuals. Symptoms generally last from two to seven days, and upon recovery, it is currently assumed that individuals will have developed immunity from future re-infection.

However, only one in four-to-five people actually have the primary symptoms, thus, and the majority no symptoms at all. Those infected with Zika who present with symptoms can be easily misdiagnosed as dengue, Chikungunya, or other viral infections that cause fever and rash, although its symptoms are usually far milder.

Brazilian authorities estimate 1.5 million citizens have been infected with Zika virus since the beginning of the outbreak. In comparison, approximately 10,000 cases of Chikungunya and a half million cases of dengue were diagnosed in Brazil in 2015. Following Brazil is Colombia, which has the second largest number of suspected Zika cases of well over 25,000 and more than 1,300 confirmed.

There is currently no specific treatment for Zika-symptomatic individuals other than supportive care measures which can include rest, fever management with acetaminophen or paracetamol (anti-inflammatories are not recommended), and good hydration. Antihistamines can be used for the rash. In terms of prevention, as the mosquito is the primary means of transmission, avoidance, insect repellents and skin barrier protection from bites are the main methods. Furthermore, Brazil has begun a massive effort to control the mosquito population, especially in view of the upcoming Summer Olympics later this year.

## POSSIBLE SERIOUS MEDICAL CONSEQUENCES

While the vast majority of those infected with Zika recover uneventfully (that is, without sequelae), there are now at least two major concerns with regard to possible consequences: microcephaly (small head and underdeveloped brain) in newborns, and development of Guillain-Barre syndrome (GBS) in adults. Both of these possible links are currently being vigorously investigated.

A connection between infection with Zika during pregnancy (likely during the first trimester) and subsequent development of fetal microcephaly development has been under investigation. Microcephaly is a general term and there are many causes, of which one could be Zika virus infection. The condition can confer a broad range of risk to an infant, including perinatal death, lifelong growth and development issues, neurological complications such as seizures, and possible overall shortened life expectancy.

Since October 2015, an unusual increase in the number of cases of microcephaly was reported in Brazil, especially in its northeastern states. Brazil normally reports an annual incidence of 150-200 cases of microcephaly, but in 2015, that rate increased 10-20 times. As of Jan. 30, 2016, more than 4,700 suspected cases of microcephaly, including 46 deaths, had been reported by

Brazil's Ministry of Health since January 2015 (vs. only 147 cases in total in 2014), and the number is rising steadily. This increase coincided with Zika's emergence in Brazil, and in November 2015, the Brazilian Ministry of Health declared a health emergency based on the increased number of microcephaly cases and issued recommendations (including consideration for delaying pregnancy) with regard to prevention and control measures.

As of Feb. 12, 2016, the U.S. Centers for Disease Control and Prevention (CDC) has issued an Alert Level Two (practice enhanced precautions) for travel to Mexico, Puerto Rico, Central America, South America, the Caribbean, parts of Oceania, and Cape Verde. Specifically, the travel warning addresses potential risk for pregnant women or women who are trying to become pregnant. On Feb. 1, 2016, the World Health Organization (WHO) declared a Public Health Emergency of International Concern and on Feb. 3, 2016, the CDC elevated its Emergency Operations Center activation to a Level 1, the highest level.

Although the evidence of a link between Zika infection and microcephaly is becoming increasingly compelling, a causal link has not yet been established with complete certainty. Tests for Zika virus have been positive in some infants with microcephaly and their mothers, but not all. French Polynesia also reported increased central nervous system complications in newborns corresponding with its own Zika outbreak.

A link between Zika virus infection and GBS is also currently being investigated. GBS is a disorder in which the immune system attacks part of the peripheral nervous system, resulting in weakness and sensory symptoms such as tingling, and can lead to paralysis and respiratory failure. Most individuals recover, but some have persistent weakness. To date, more than 100 new cases of GBS have been reported in Brazil (an overall increase of 19 percent during 2015) and increased incidence reports of cases are also noted in Colombia, El Salvador, Suriname, and in Venezuela, since the emergence of the Zika virus. Venezuela has been especially hard-hit by GBS, with more than 255 GBS cases recorded since Zika's arrival. As with microcephaly, investigation continues to establish a possible relationship between GBS and the Zika virus.

#### IMPACT ON THE INSURANCE INDUSTRY

Based on current information, the overall adult mortality risk, in relation to the number of people infected with Zika virus, appears essentially nil. The number of cases of GBS, however, while small, can potentially lead to health benefits-related claims.

The bigger and more tragic issue is the implications for infants born with microcephaly, whether or not Zika is eventually proven to be the cause. While any policy with a congenital exclusion would likely not be affected, other policies specifically covering congenital complications might apply. These unfortunate children are also likely to experience life-long health issues of developmental and cognitive impairment, seizures, and probable

shortening of life expectancy. Thus, these are complications that could result in increased health benefits-related claims.

#### SUMMARY

The expanding presence of Zika virus in Brazil and Latin America and its recent incursion into North America demonstrates the changeable and unpredictable risks posed by infectious diseases both to the general population and insured lives. Insurers must remain vigilant to these new risks, assess them appropriately, and respond in a measured and proportionate way that is based on the true risk. The difficulty encountered, however, is that when a new risk emerges, the extent and severity that will eventually be experienced is typically not initially clear. Thus, constant review of new data is essential.

#### ADDITIONAL INFORMATION AND UPDATES

As the knowledge base of Zika virus grows, it is important to keep up with new developments. The following are reliable resources:

- Brazilian Ministry of Health:
  - o <http://portalsaude.saude.gov.br/>
- Pan American Health Organization:
  - o <http://www.paho.org/bq/>
- U.S. Centers for Disease Control and Prevention:
  - o <http://www.cdc.gov/zika/>
  - o <http://www.cdc.gov/zika/geo/index.html>
- European Centre for Disease Control and Prevention:
  - o [http://ecdc.europa.eu/en/healthtopics/zika\\_virus\\_infection/Pages/index.aspx](http://ecdc.europa.eu/en/healthtopics/zika_virus_infection/Pages/index.aspx) ■



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<http://portalsaude.saude.gov.br/>

<http://www.paho.org/hq/>

<http://www.cdc.gov/zika/>

[http://ecdc.europa.eu/en/healthtopics/zika\\_virus\\_infection/Pages/index.aspx](http://ecdc.europa.eu/en/healthtopics/zika_virus_infection/Pages/index.aspx)

[http://www.ninds.nih.gov/disorders/gbs/detail\\_gbs.htm](http://www.ninds.nih.gov/disorders/gbs/detail_gbs.htm)

Ashwal S, Michelson D, Plawner L, Dobyns W. Practice Parameter: Evaluation of the child with microcephaly (an evidence-based review). *Neurology* 2009;73:887-897.

<http://www.who.int/emergencies/zika-virus/situation-report/12-february-2016/en/>

# Catastrophic Medical Excess Reinsurance Coverage and Claim Trends

By Mark Troutman

This article provides an overview of coverage and claim trends for managed care medical excess of loss insurance and reinsurance programs. For purposes of this article, reinsurance is considered to include provider excess of loss insurance.

## COVERAGE TRENDS

Although there is a diverse mix of commercial, Medicare and Medicaid, including dual eligibles, health plans purchasing reinsurance protection, Medicaid risks are becoming more prevalent as state and federal governments expand Medicaid coverage to previously uninsured populations. In addition, states have transferred to health plans some Medicaid membership categories on which they historically have retained some or all catastrophic risk. These new Medicaid risks are often risk-adjusted with actuarial analysis of the capitation rate, but the sheer size of the new membership and the unknown new population health profile inherently bring material unknown risks to a health plan and its reinsurer.

The smaller the plan, the more likely it purchases reinsurance protection. The size and risk tolerance of the plan determine the deductible selected, which can vary over a wide range (see chart 1). A small but growing segment of coverage includes “sleep insurance” deductibles of \$2 million plus, which have been necessitated by the introduction of unlimited maximum benefits and the elimination of underwriting considerations in certain lines of business. Because of this unlimited liability, more and more reinsurance clients are increasing their maximum reinsurance limits. Although many insurance companies and health plans (HMOs) had unlimited liability prior to the Affordable Care Act, health care reform provisions make this a growing coverage trend (see chart 2).

CHART 1: DEDUCTIBLE

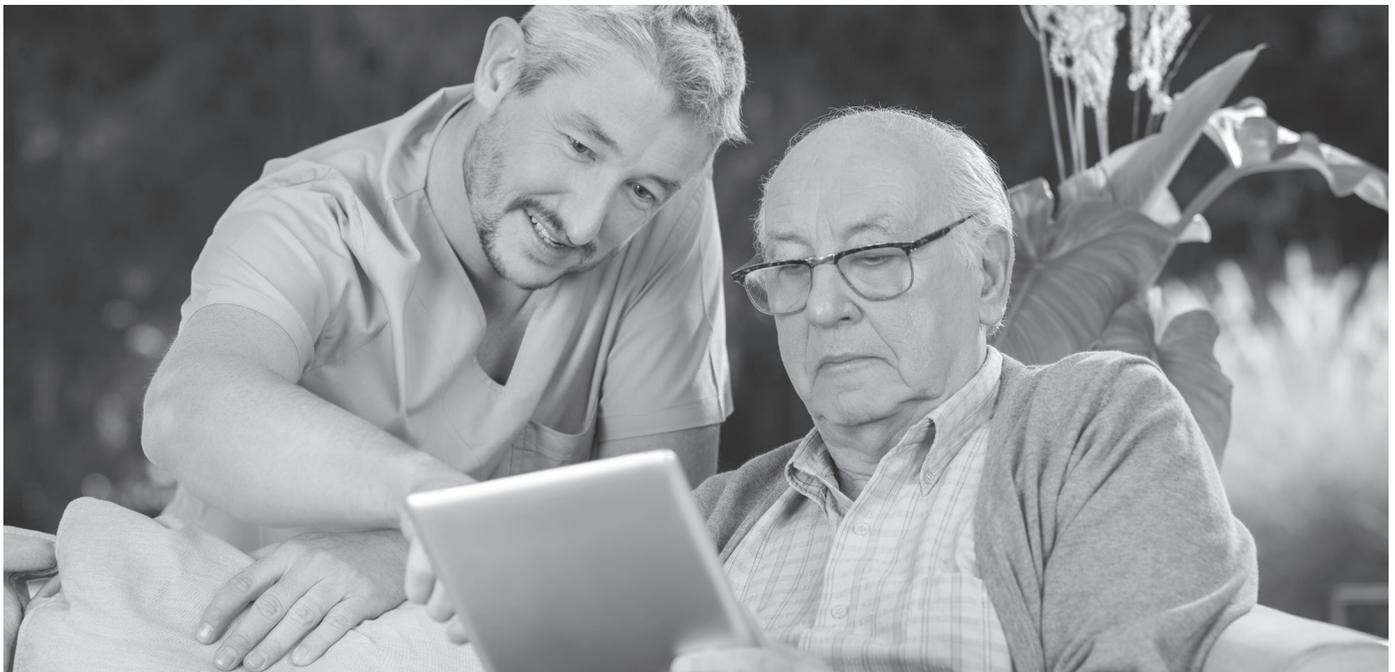
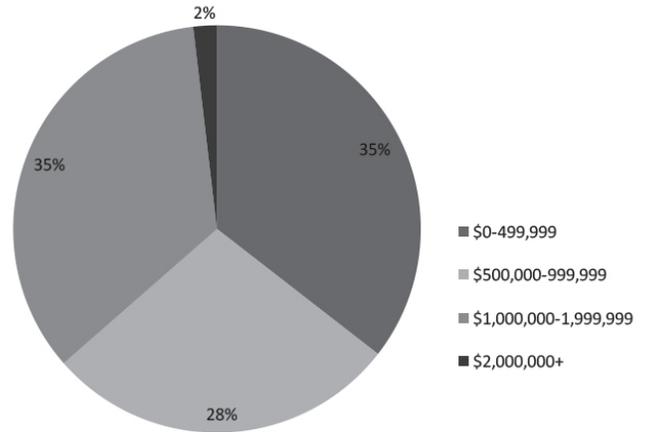
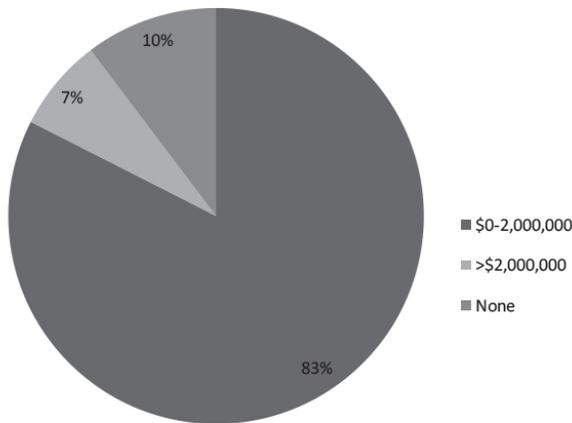
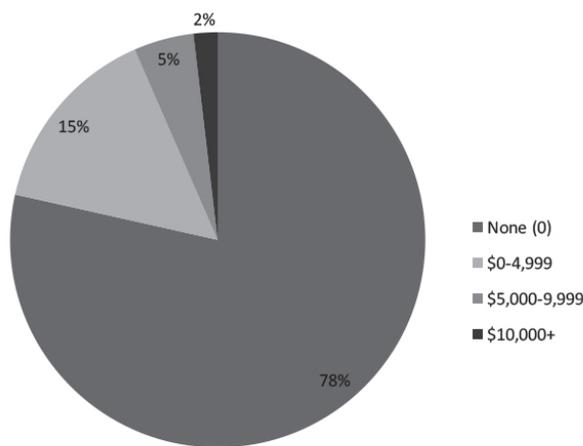


CHART 2: ANNUAL MAXIMUM



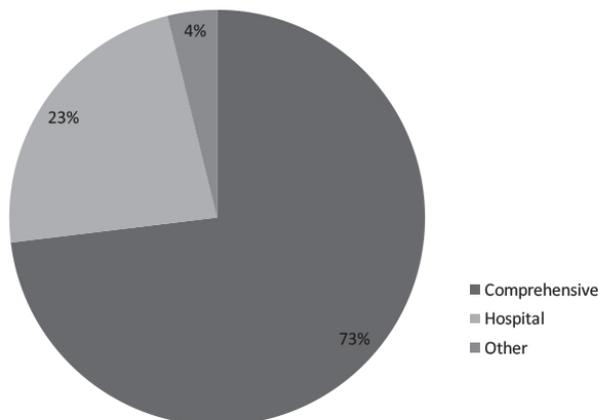
Another significant shift includes coverage with no inside limits on reinsurance reimbursement. Now 78 percent of Summit Re health plan clients purchase coverage with no average daily maximum (ADM) limitation. Previously, it was more common for reinsurance treaties to specify a maximum reimbursement per day (per diem), regardless of the actual billed and paid charges. Recall that the coverage feature was designed to encourage health plans and preferred provider arrangements to attempt to keep care in-network to the greatest extent possible, or to bring it back in-network at the earliest opportunity when it had leaked out-of-network. Notably, many plans purchase higher deductibles at the same time they eliminate this inside limit. This results in more predictable reinsurance reimbursements and price neutrality, i.e., a more consistent fixed dollar reinsurance spend year over year (see chart 3).

CHART 3: AVERAGE DAILY MAXIMUM



Comprehensive coverage is now predominant. The managed care excess of loss market was originally established on hospital-only coverage, as that reflected the majority of catastrophic claim costs many years ago. However, exposure to catastrophic losses is no longer derived primarily from hospital stays in this new health care environment. Specialty drugs and high cost therapies/procedures (regardless of setting) are driving this push to comprehensive coverage. Accordingly, 73 percent of all Summit Re clients now purchase comprehensive coverage which includes reimbursement for professional services (physicians and surgeons), drugs and other medical costs in addition to hospital costs (see chart 4).

CHART 4: COVERAGE TYPE

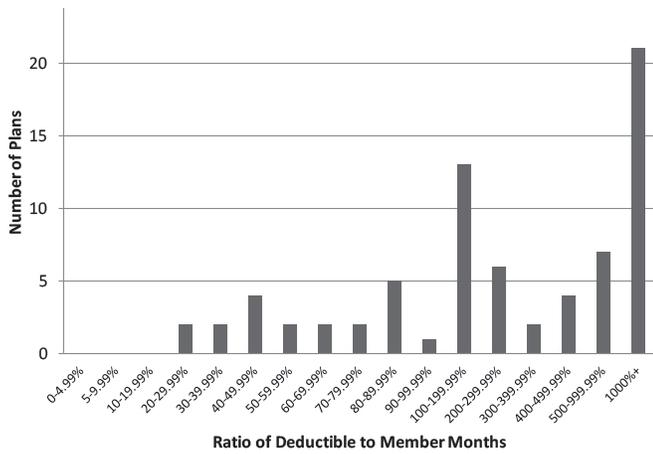


Health plans had historically purchased reinsurance protection for various “step-down” facilities and treatments venues such as skilled nursing facilities, sub-acute care, rehabilitation facilities, home health care and hospice care, subject to various limits such as \$500/day for 30 days. It is more common now for step-down facilities to have no separate reimbursement limits and to be treated the same as any other claim.

Risk tolerance per health plan will vary for an assortment of reasons. Plan size, coverage type, maturity of the plan, financial strength, access to capital, and underwriting margins (targeted and actual) can affect risk tolerance. One measure of health plan risk tolerance versus risk exposure is the ratio of deductible divided by health plan annual member months. The larger the ratio, the more risk tolerant is the health plan. The attached chart demonstrates this ratio for a wide variety of health plans reinsured by Summit Re (see chart 5 on page 16).

A significant mix of provider payment methods still exists, such as diagnosis-related groupings (DRGs), discounted fee for service arrangements and per diems (all with or without outlier provisions). The reinsurance industry has seen minimal activity, however, in “bundled payment” reimbursements, that is, in providing some form of aggregate stop-loss protection on the ade-

CHART 5: MOST FREQUENT RATIOS



quacy of bundled payment reimbursement. There is currently a small but growing number of requests for aggregate stop loss on capitation funds.

The following charts illustrate distributions of claims by diagnosis, based on reinsured claim amounts paid (Source: Summit Re claim payments). The largest catastrophic claims are still pre-term births and congenital anomalies, hemophilia, transplants, traumas and burns, complications of various procedures and



CHART 6: CLAIMS BY DIAGNOSIS-MEDICARE

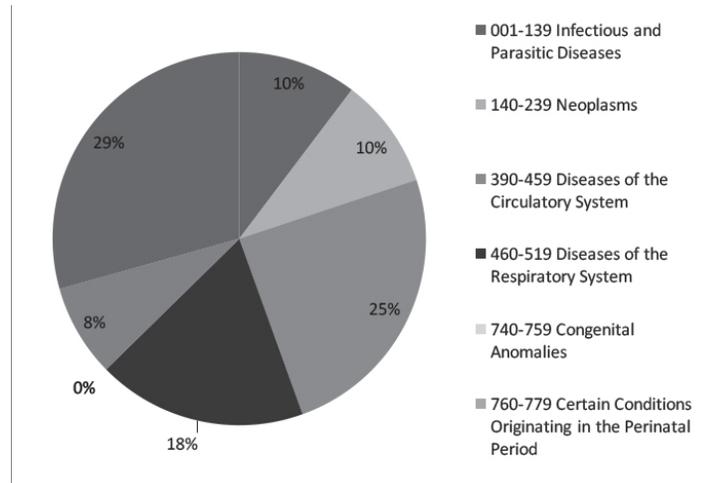


CHART 7: CLAIMS BY DIAGNOSIS-MEDICAID

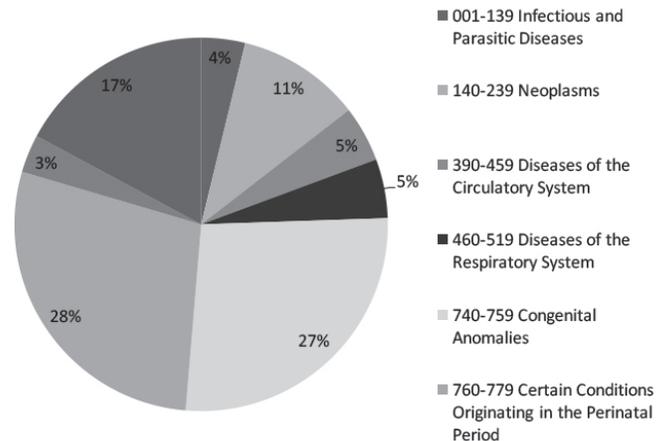
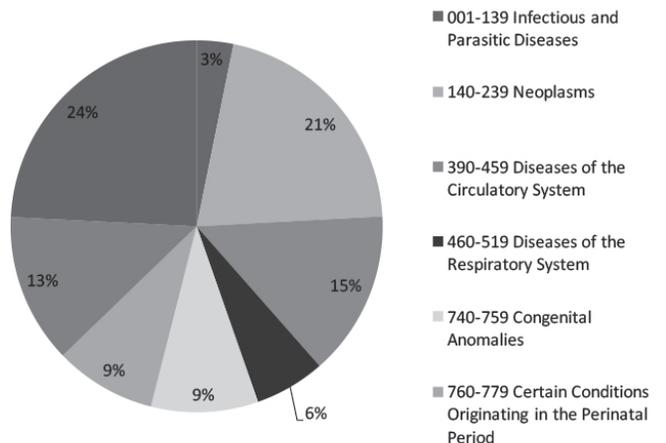


CHART 8: CLAIMS BY DIAGNOSIS-COMMERCIAL



cancer. The mix varies based upon the population being reinsured (commercial-Medicare-Medicaid) (See charts 6, 7, and 8).

### COST CONTAINMENT SUPPORT

To help mitigate claim frequency and severity, the reinsurer often makes available to its health plan clients a variety of internal and external medical management services. These are designed to offer cost savings primarily through appropriate care management that is focused on clinical outcomes. Examples of these types of programs for managing catastrophic claims include the following:

Consultative Case Management	Assistance with catastrophic cases, research on rare or unusual clinical situations, suggestions for alternate care options.
Transplant Management Program	Access to credentialed (centers of excellence) and non-credentialed facilities for transplants.
Congenital Heart Disease Network	Access to centers of excellence for the treatment of congenital heart disease.
Cancer Services Network	Access to centers of excellence for the treatment of complex cancers.
Kidney Management Services	Access to dialysis centers. Renal case managers work with clients to maximize cost effectiveness of chronic kidney disease treatment.
Neonatal Management	Resolving key issues that impede progress, while accelerating care when appropriate and offering evidence-based solutions.
Physician Consultation	Specialty consults, second opinions, and hospital bill audits.
National PPO Network	Medical assistance/cost containment via PPO networks and claim re-pricing.
Provider Negotiations	Direct provider negotiations with provider sign-off.
Forensic Review	Identify inappropriate levels of care, non-covered services, experimental treatments, errors and unbundling. A course of care is reconstructed to identify gaps between care provided and billed charges.
Claim Recovery	Post-payment claim recovery services related to coordination of benefits, Medicare eligibility, judicial judgments and claim payment verification.
Specialty Pharmacy	Medication management and support services for patients with serious and chronic conditions.
Pharmacy Benefit Management (PBM)	Maximize relationships with PBM vendors.

### WHAT'S NEXT

Health care reform continues to bring new challenges and opportunities. The industry is now familiar with the structural provisions offered by Centers for Medicare and Medicaid Services (CMS) known as the 3Rs: reinsurance, risk adjustment and risk corridor. Designed to partially mitigate the risk associated with covering new populations, these protections were intended to be limited in scope and duration, except for the risk adjustment mechanism. Reconciliations for 2014 coverage in 2015 have now been completed for these well-intended, but complex provisions. Although they accomplished many of their objectives, there was considerable uncertainty regarding the risk adjustment transfers, as well as some surprises such as the partial funding of the risk corridor and the demise of several co-ops.

A recent Summit Re client survey of the problems and opportunities of key reinsurance decision-makers highlighted the following issues as the most critical ones currently facing their organizations:

1. Declining reimbursements, risk adjustment payment cuts, minimum loss ratio constraints, financial uncertainty regarding the 3Rs.
2. Provider risk contracting strategies. Capitation is becoming more prevalent, primarily with Medicare risks as large national regional chains demonstrate desires to share risk with provider groups through capitation.
3. The high cost of specialty drugs.
4. Whether to expand into new markets such as employer stop loss, the exchange, dual eligibles and special needs populations.
5. Capital constraints and capital allocation.
6. Regulatory compliance.

These are interesting and challenging times for all. Reinsurance is still a versatile tool in a health plan's enterprise risk management plan which addresses these critical issues. ■



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# LEARN Goes Caribbean

By Michael L. Frank and Larry N. Stern

From the first presentation by the original team in 2010, the Life Education and Reinsurance Navigation (LEARN) program has now been presented to regulators in approximately 30 states and has recently expanded outside the U.S. to regulators in Bermuda and Trinidad & Tobago. Michael Frank and Larry Stern jointly presented at the Bermuda Monetary Authority (the Authority) in November and Central Bank of Trinidad and Tobago (CBTT) in December.

## THE GENESIS OF LEARN

The genesis of LEARN began in 2009 with the objective to help insurance regulators obtain continuing education in reinsurance. What began as an informal discussion with the Delaware

“The genesis of LEARN began in 2009 with the objective to help insurance regulators obtain continuing education in reinsurance.”

Department of Insurance gradually became a more formal presentation on the life reinsurance market. With the implementation of the health care reform (PPACA) in 2010, the LEARN presentation was expanded further to include health care reinsurance topics at the request of the insurance regulators.

Today, the LEARN program covers life, annuity, accident and health related topics in reinsurance with expanded topics covering captive reinsurance structures, principle-based reserves (PBR), Actuarial Guideline 48 (XXX/AXXX reserving), longevity risk, treaty provisions and many other topics that are of interest to insurance regulators. The general theme of LEARN is a core package of material expanded to cover special requests of the specific regulators interested in training—each presentation

can be tailored, within reason, to fit the needs of each regulatory jurisdiction.

Currently, the LEARN team has nine instructors including Jeff Burt, John Cathcart, Michael Frank, Carlos Fuentes, Mike Kaster, Jeffrey Katz, David Nussbaum, Tim Robinson and Larry Stern.

## LEARN IN BERMUDA

In November 2015, the LEARN team presented to the Authority. The Authority began an initiative to increase continuing education for its employees and contacted the Society of Actuaries. Per the request of the Authority, the current LEARN presentation was expanded to incorporate information on the following: (1) regulatory topics in the U.S.; (2) trends in the market; (3) new approaches to reinsurance; (4) investments; (5) long-term care; and (6) companies in the news. The standard current LEARN presentation covered topics including risk transfer, reserve credit, longevity risk, sample special risk, and reinsurance treaty provisions.

It was a busy time in Bermuda with Bermuda International Long Term Insurers and Reinsurers ([www.biltir.bm](http://www.biltir.bm)) having planning meetings, as well as one of the more popular sporting events occurring on the island (World Rugby Classic championship matches).

Approximately 20 people from the Authority attended the LEARN meeting and there were good interactions with the participants and the meeting instructors (Larry Stern and Michael Frank). With the Bermuda market being a mature reinsurance industry, significant focus of the presentation centered on understanding the U.S. market and ceding companies, as well as, discussions around capital requirements, NAIC risk-based capital, and Solvency II. A special section covering a high-level summary of property casualty and special risk topics was added to the course with discussion of sample transactions in asbestos liabilities, workers' compensation, catastrophe covers/bonds, pet insurance and other specialty product lines. For sample transactions involving specific companies, we discussed information that was solely in the public domain, including company press releases, so as not to disclose any confidential or proprietary information of insurance and reinsurance organizations.

The emphasis of LEARN in the U.S. concerns regulatory action for ceding companies since state regulators have direct control over their domestic ceding companies. In Bermuda, the emphasis concerns reinsurers because of the nature of this market. Therefore it was important in the Bermuda LEARN presentation to highlight ceding company risk spreading strategies. Sample transactions included both the U.S. and international market since cedants reinsuring in Bermuda come from many countries worldwide.

## ABOUT THE BERMUDA MONETARY AUTHORITY (THE AUTHORITY)

The Authority is the regulator of Bermuda's financial services industry. Established by statute in 1969, it has changed significantly over the past four decades to adapt to changing needs of the financial sector and global regulatory requirements. Today, the Authority supervises and regulates financial institutions operating in Bermuda. Additional responsibilities include issuing Bermuda's national currency, managing exchange control transactions, assisting other agencies with the detection and prevention of financial crime, and advising the government on banking and other financial and monetary matters. The Authority develops risk-based financial regulations that it applies to the supervision of Bermuda's banks, trust companies, investment businesses, investment funds, fund administrators, money service businesses, corporate service providers and insurance companies. It also regulates the Bermuda Stock Exchange.

According to the latest available data, the Authority has regulatory oversight of more than 1,200 insurance companies with gross written premiums of \$163 billion and capital of \$192 billion. Registrations for new insurers were stable year after year with 64 new entities being recorded in 2015.

The Authority has an ongoing commitment to the development of its talent pool. Subject matter experts continue to design specialized training programs to supplement the supervisory and regulatory toolkit of the Authority's professional regulators. In addition to the LEARN program, other upcoming technical training programs (hot topics) at the Authority include Alternative Investment Fund Managers Directive (AIFMD), compliance issues in insurance and asset management, Foreign Account Tax Compliance Act (FATCA), and anti-money laundering awareness.

For additional information about the Authority, visit [www.bma.bm](http://www.bma.bm).

### LEARN IN TRINIDAD AND TOBAGO

In December 2015, the LEARN team presented to the Central Bank of Trinidad and Tobago (CBTT). Similarly, the CBTT reached out to the Society of Actuaries for an education session. The material covered was similar to the Bermuda presentation with an expansion to cover the international reinsurance market beyond the U.S. Sample reinsurance markets included Bermuda, Cayman Islands, U.K., Brazil, Canada, Ireland, Australia, and China.

Similar to Bermuda, it was a busy time in Trinidad since the Caribbean Actuarial Association ([www.caa.com.bb](http://www.caa.com.bb)) was having its annual meeting in Trinidad and approximately 200 actuaries from the U.S., Canada, Europe, South America and the Caribbean were in attendance.

Approximately 20 people from the CBTT attended the LEARN meeting; there were good interactions with the participants and



Photograph by Michael L. Frank. BMA's building

the meeting instructors. CBTT specifically requested discussion focused on reinsurance structures, criteria for assessing adequacy of reinsurance; uses and misuses of reinsurance, and emerging reinsurance issues.

The LEARN presentation/discussion was a lead into a specific presentation provided by CBTT, which was an update on the regulation environment in Trinidad & Tobago (T&T), as well as, feedback of the reinsurance regulations in T&T. Some highlights of the T&T regulatory environment include the following:

- The Trinidad legislation does not prescribe specific requirements for reinsurance arrangements.
- Foreign reinsurers need not be licensed in the jurisdiction.
- The language of the Insurance Act is very general whereby insurers must maintain "adequate" reinsurance.
- The regulator, CBTT, does not mandate or approve individual reinsurance arrangements, but it has the authority to require remedial action if the insurer is found to be pursuing or about to pursue a course of conduct that is an unsafe or unsound practice or is pursuing or is about to pursue a course of conduct, that may directly or indirectly be prejudicial to the interest of policyholders.
- The CBTT does not prohibit reinsurance with related parties, but closely supervises such arrangements. A registered insurer in T&T is required to have and maintain adequate ar-

rangements for the reinsurance of its insurance business. It is, therefore, the responsibility of the insurer to develop prudent approaches to managing its reinsurance risks and to maintain adequate and acceptable reinsurance at all times.

In the months preceding the LEARN presentation, the CBTT embarked on the development of a guideline applicable to all life insurers and general insurers registered in T&T in respect of reinsurance on local and international business. The purpose of this guideline is to be transparent regarding the CBTT's expectations of insurers to have effective reinsurance risk management policies, practices and procedures and to ensure that reinsurance risk management is part of an insurer's enterprise risk management framework.

In addition, a self-assessment questionnaire for attestation by key officers will be required. This is a fundamental shift in the CBTT's supervisory approach for reinsurance. The guideline was drafted based on the review of International Association of Insurance Supervisors (IAIS) specifically Insurance Code Principle (ICP) 13 along with other international and regional regulatory practices combined with specific local issues currently being faced in T&T. (Note: According to the IAIS website, the IAIS represents insurance regulators and supervisors of more than 200 jurisdictions in nearly 140 countries, constituting 97 percent of the world's insurance premiums.)

According to the CBTT, the LEARN presentation was timely and informative as the CBTT was at the time deliberating its policy position for the draft guideline on certain key areas such as fronting, related party arrangements, definition of risk transfer, collateral or other requirements for arrangements with unrated reinsurers and stress testing of the reinsurance program.

Despite differences in legislation, such as the U.S. requirements for risk-based capital, reserve credit security, risk transfer and licensing of reinsurers, to name a few, the LEARN discussions proved useful. In particular, the CBTT noted key treaty provisions and the NAIC Model Act on credit for reinsurance, particularly in relation to unauthorized reinsurers. The CBTT is therefore revisiting some of its initial criteria proposed in the draft guideline.

The next phase is to expose the draft guideline to the insurers for consultation and make the necessary amendments to facilitate implementation. According to CBTT, there are 14 property and casualty companies and 18 life companies domiciled in Trinidad & Tobago.

#### ABOUT THE CENTRAL BANK OF TRINIDAD AND TOBAGO (CBTT)

The Central Bank Act of 1964 entrusts the CBTT with a range of responsibilities, including: (1) issuing and redeeming currency; (2) developing and implementing monetary policy; (3) acting

as banker and advisor to the government; (4) acting as banker to the commercial banks; (5) issuing of securities on behalf of the government; (6) managing the foreign exchange market and protecting the external value of the currency; (7) investing the country's external reserves and the HSF; (8) fostering and promoting financial stability; and (9) conducting intelligence-gathering and research. The CBTT's Financial Institution Supervision Department (FISD) regulates banks, insurance companies, insurance intermediaries and pension funds by its powers under the Financial Institutions Act, 2008 (the FIA), and the Insurance Act, Chapter 84:01 (the IA).

The CBTT is also instrumental in the development of the Trinidad and Tobago financial system and continues to adopt policies which foster economic growth and development. For more information about the CBTT, visit [www.central-bank.org.tt](http://www.central-bank.org.tt).

#### SPECIAL THANKS

We want to thank the Authority and CBTT for their hospitality and their interaction during the LEARN programs. Special thanks to Dianne-Mae Burgess, who is learning and development program manager at the Authority and Michelle Chong Tai-Bell, who is chief actuary in the CBTT's Financial Institutions Supervision Department and has assumed the role of inspector beginning in 2016 for the CBTT. An additional thanks to Annette James, lead actuary, State of Nevada Division of Insurance, who was born in Trinidad, for her assistance as a tour guide of Trinidad. ■

Both Michael and Larry have been elected and served on the Reinsurance Section Council and both have been instructors for the SOA LEARN program since 2010.



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Looking Long Term

10

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# Canadian Reinsurance Conference 2016

## ReDefining Leadership

By François Lemieux

This year marks our 60th anniversary hosting delegates from North America and beyond. Join us April 13, 2016 as we celebrate and work toward the next 60 years!

In 1956, the average cost of a home was \$11,700. Life expectancy at birth for a Canadian man was 67. Rock ‘n’ Roll was shaking the world with Elvis entering the U.S. music charts for the first time with Heartbreak Hotel, and Rocky Marciano retired as the only undefeated heavyweight champion of the world.

It also happens to be the first year the reinsurance industry formed the CRC, with a half-day meeting in Toronto focusing on risk-sharing arrangements. Since then, the CRC has become one of the premier reinsurance and insurance conferences in the world. The conference is dedicated to providing a forum for industry participants to learn about developments affecting the reinsurance and insurance business, as well as providing exceptional networking opportunities.

The original organizers were true visionaries—displaying leadership qualities which define the CRC to this day. And just as our founders displayed real leadership in those early days, so have many of our delegates. As an industry we are ReDefining Leadership through the strength and conviction that what we do makes a difference.

This year’s CRC will focus on this effective leadership at an industry, corporate and professional level. Our industry is one of complexity and change. The 2016 CRC will provide insight and resources to support all delegates as we adapt and continue to lead by engaging and inspiring stakeholders to overcome change, appreciate potential and accomplish their vision.

We will have a number of exceptional industry and professional leaders speaking at the conference, and are thrilled to have Paolo De Martin, chief executive officer of SCOR Global Life, Donald Guloien, president and chief executive officer of Manulife as well as Greig Woodring, director and chief executive officer of RGA, opening the conference with an executive panel.

The agenda will also include an insightful discussion from Maria Gonzalez on mindful leadership and end with a special keynote from Michael Pinball Clemons, vice-chair, Toronto Argonauts.



In addition to these main stage presentations, more than 30 subject matter experts will present on a variety of topics that are of concern and interest to both direct writers and reinsurers alike in our one-hour workshops.

For those who have attended the CRC and contributed to this 60 year legacy, we thank you for your ongoing dedication to this one-day event which helps to connect and support a wide range of industry stakeholders.

On behalf of the organizing committee,

<b>Chairman</b> <b>François Lemieux</b> Executive Vice President & Chief Agent SCOR Global Life Canada	<b>Secretary</b> <b>David Moss</b> Senior Vice President Swiss Reinsurance Company Ltd
<b>2015 Chair</b> <b>Bernard Naumann</b> Senior Vice President, Individual Reinsurance Munich Re	<b>Incoming Secretary</b> <b>Blake Hill</b> AVP Strategy Manulife Financial
<b>2017 Chair</b> <b>Alka Gautam</b> President and Chief Executive Officer RGA	<b>Event Planner</b> <b>Laura Gutsch</b> Manager CMG Marketing
<b>Treasurer</b> <b>Stephen Cooley</b> Chief Administrative Officer Aurigen Reinsurance Company	

I am looking forward to welcoming everyone to a very thought provoking and timely conference.

#### THE HISTORY OF THE CRC

The Canadian Reinsurance Conference (CRC) has become one of the premier reinsurance conferences in the world. It is dedicated to providing a forum for industry participants to learn about developments affecting the reinsurance business and providing an opportunity to network with peers. Continued strong attendance at the conference can be interpreted as an indicator that the CRC continues to succeed in meeting their goals and in delivering value to the industry.

The CRC was first held in 1956 when representatives from several Toronto insurance companies met for a half-day meeting. The intent was to discuss reinsurance matters in their mutual interest. At that time, companies were involved in reciprocal risk-sharing arrangements in order to facilitate placement of large face amount policies. The purpose of their meeting was to discuss how to expedite these transactions.

From that simple beginning, the CRC has evolved to a full-day conference format which now regularly attracts more than 500 attendees from the insurance, reinsurance, and retrocession industries in Canada, the U.S., and abroad. Approximately 70 per-

cent of the attendees are from Canada, 25 percent from the U.S., and 5 percent are international.

The CRC is planned and executed by an executive committee of six members, drawn from the insurance and reinsurance industry in Canada. Committee members serve for three years, with terms staggered so that two people leave the committee and two new members join each year. This structure provides continuity and ensures there are always experienced members with knowledge and insights for the group to draw on. New committee members are selected by the existing committee into one of two streams. One incoming member will serve as secretary, treasurer, past secretary-treasurer in their three-year term. The other new member will take on the roles of incoming chair, chair, and past chair. ■



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# Enhanced Annuities: Caring For At-Retirement Needs

By Mick James

People are born. They grow up, go to work, earn money, save some of it, pay taxes and eventually retire. They hope the money they have saved, along with what the state might chip in and what support their families might provide, will see them through their non-working years.

In the U.K., most workers believe they will need to plan for their own retirements, and are not expecting any support from the government. Workers also want to be able to purchase insurance and financial products that reflect their individual risks. This market profile differs notably from that of other countries: in some, pooling of risk and community rating are normal, and in others, the idea that the state will look after citizens is alien.

The U.K.'s International Longevity Centre's recent report "Making the System Fit for Purpose" ([http://www.ilcuk.org.uk/index.php/publications/publication\\_details/making\\_the\\_system\\_fit\\_](http://www.ilcuk.org.uk/index.php/publications/publication_details/making_the_system_fit_)

*for\_purpose*), says that for customers, the three most important elements for retirement income are:

- A guarantee of money to pay bills into their 90s;
- Certainty that retirement income will, at least, keep up with inflation; and
- Flexibility to receive more income or less, depending on yearly needs.

Annuities can provide a guaranteed fixed income for life in exchange for a lump-sum payment, making them a good way to meet the first two needs. This article will discuss the growth and development of the U.K.'s enhanced annuity market, the recent legislative changes restricting its growth, current market drivers, and the building blocks that might enable this annuity framework to translocate to other markets.

## HOW DID THE U.K.'S ENHANCED ANNUITY MARKET DEVELOP?

The U.K. market began gradually in the mid-1990s, with a simple proposition from two specialist insurers: As an unhealthy smoker is likely to die sooner than a healthy non-smoker, smokers with a pension pot can receive an annuity with enhanced terms that will provide a higher monthly income than would a standard annuity, because it would not need to be paid for as long. Not surprisingly, smokers with large pension pots and savvy Independent Financial Advisers (IFAs) were enthusiastic



about this proposition, and in 1995, the first “official” enhanced annuities were introduced and the market was born.

The number of impairments that can be underwritten for annuities rapidly grew to encompass other lifestyle factors as well as moderate and even severe medical conditions such as cancer, cardiovascular conditions, kidney failure and stroke. Mainstream life insurers soon took an interest in offering these annuities as well, to prevent being selected against in the risk pool and to select against their competitors in the standard annuity market.

The popularity of these annuities, as well as their complexity, surged in the U.K. over the next decade-and-a-half—by 2007, the market was approximately £1 billion and growing fast. Insurers and reinsurers knew they needed to develop ways to streamline the underwriting process, which resulted in the development of tools such as dedicated automated underwriting and data exchange platforms and the Common Quote Request Form (CQRF), which standardized the deep level of information-gathering from pre-retirees needed for speedy and strong underwriting. (A sample of the CQRF can be found at <https://www.retirementadvantage.com/downloads/06-15-common-quotation-form.pdf>.) The market has since continued to surge, and by year-end 2013, reached nearly £4 billion—approximately one-third of the U.K.’s entire annuity market by premium size.

The enhanced annuity market’s rapid growth was assisted by the fact that in the U.K.—at least prior to April 2014—pension holders were required by law to annuitize their individual defined contribution (DC) pension pots.

Life insurance companies that managed employee pensions routinely sent pre-retirees a “warm-up pack” well in advance of their anticipated retirement dates. In the pack was information about pension rollover options and an offered annuity rate, should the pre-retiree opt to roll the pot into one of the insurer’s standard annuities. In 2013, the Association of British Insurers’ compulsory code of conduct on retirement choices required pension and annuity providers to educate pre-retirees about the “open market option” for annuities prior to retirement, and so included information to encourage pre-retirees to go into the open market to research other annuity options.

Not surprisingly, most pre-retirees (10 years ago this could easily have been 80 percent) took the simplest option, rolling their pension pots into annuities sponsored by the same life insurance company with which the funds were accrued without ever checking competitive annuity rates from other providers.

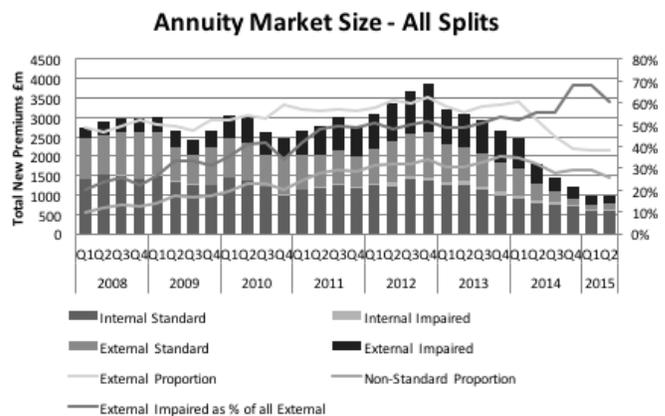
The government was concerned that too few people were using the option of shopping for better rates, and that this internal rollover to the existing insurer was ultimately creating poor outcomes for customers. As the low interest rate environment that emerged after the 2008 financial crisis stretched on, returns

from annuities came under increasing pressure and customers were starting to perceive annuities as poor value.

The result of this pressure was a sweeping revision to the pension system in 2014 that effectively did away with all restrictions on how retirees could use their pensions. Customers now had a choice: they could purchase an annuity from any provider, take their pension pots in cash, or leave the pots invested on an insurer’s platform, drawing down funds as and when required.

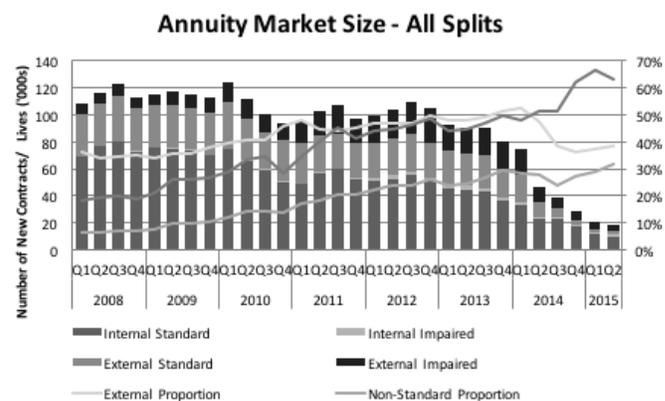
The following graphs demonstrate the significant impact this has had on annuity volumes as well as the significant gains experienced by income drawdown platforms. It is useful to note that the shape of the graph is impacted significantly by the requirement that began in 2013’s first quarter to price on a gender-neutral basis, which caused a surge in male annuity sales into the third and fourth quarters of 2012.

FIGURE 1 U.K. ANNUITY MARKETS BY VALUE



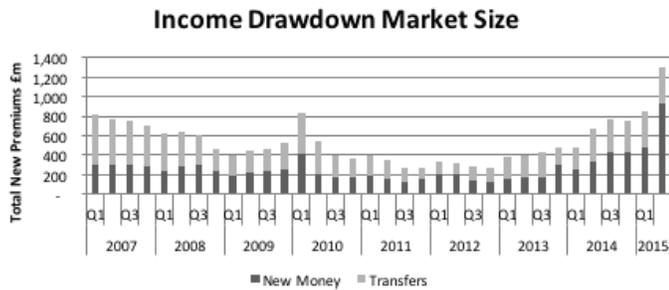
Source: ABI Market Statistics

FIGURE 2 U.K. ANNUITY MARKETS BY CASE COUNT



Source: ABI Market Statistics

FIGURE 3 U.K. ANNUITY MARKETS – INCOME DRAWDOWN MARKET SIZE



Source: ABI Market Statistics

Although annuity sales have, not surprisingly, slumped over the past two years, enhanced annuities are still a sizable market in the U.K. They hold a strong share of the at-retirement market, and all expectations are that the product will continue to thrive, as these products continue to offer individuals with impaired longevity the opportunity to receive larger annuity amounts.

Going forward, we anticipate enhanced annuity customers will start to top-slice their vested pension pots, using a portion of the funds to buy an annuity to deal with the longevity issues while keeping the rest on a drawdown platform.

ABOUT THE CURRENT EA MARKET

The following table provides some examples of the types of enhancements U.K. customers are typically receiving.

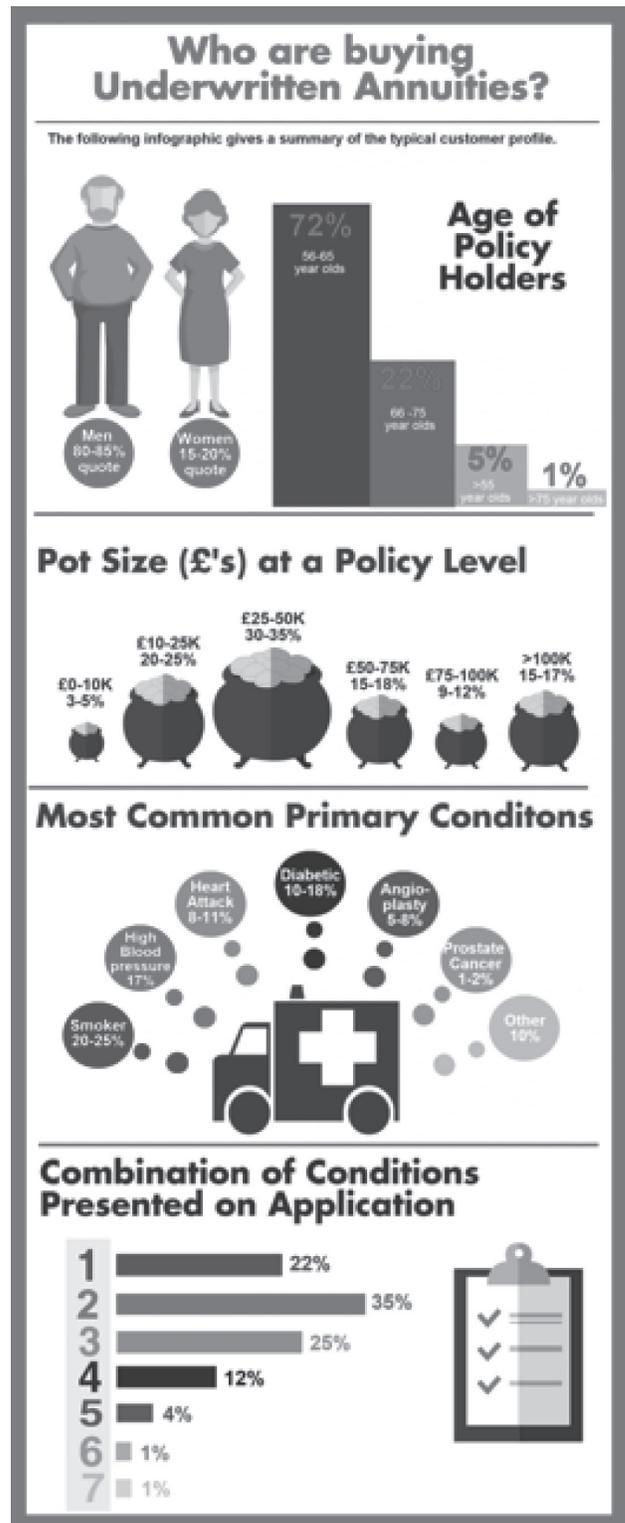
FIGURE 4: IMPAIRMENTS AND UPLIFT

Condition	Rating	Notes	Uplift
Lung Tumor	111pm x9yrs	IIIA, 1yr	76%
Breast Cancer	32pmx8yrs	T2,G3	17%
Heart Attack	100	MI<1year	16%
Smoking	74	15cpd	12%
Diabetic	35	Dx 6yrs, good control	6%
Overweight	25	BMI 39	5%

Source: RGA

For underwriting, companies leverage years of medical and underwriting expertise gained developing research-based underwriting manuals for life assurance. Correctly estimating the impact of health conditions on mortality is fundamentally the same for underwritten annuities as for life assurance—just the emphasis is different. For life assurance contracts, the risk is in underestimating the impact of an impairment, whereas for underwritten annuities, overestimation is the risk.

FIGURE 5: THE ENHANCED ANNUITY BUYER



Source: RGA

Underwriters will use standard metrics to explain the extra risk, such as:

- Percentage extra mortality,
- Flat per mille extra, and
- Years to age.

However, when this is translated through to the risk cost it is derived to be actuarially equivalent at point of sale to the true risk profile with different conditions evolving differently relative to base mortality. For example, different conditions will need to be treated in different ways:

- Ever increasing (e.g., degenerative neurological conditions),
- Temporary Increase (e.g., most cancers), and
- Persistent differences (e.g., smoking).

The following infographic gives a summary of the typical enhanced annuity customer profile.

FIGURE 6: THE MOST COMMON CONDITION COMBINATIONS

Condition 1	Condition 2	Condition 3
High Cholesterol	High Blood Pressure	
Diabetic	High Cholesterol	High Blood Pressure
Smoker		
Smoker	High Cholesterol	High Blood Pressure
Smoker	High Blood Pressure	

Source: RGA

FIGURE 7: EXTRA MORTALITY LOADINGS

EXTRA MORTALITY LOADINGS AT A QUOTES STAGE	
% Extra Mortality	% of all quotes
0-25% EM	25-35%
26-50 EM	15-20%
51-100 EM	30-35%
101-250 EM	15-20%
251-500 EM	1%
>500 EM	1%

Source: RGA

## CHALLENGES

While markets around the world might develop products such as enhanced annuities which better meet customer needs not all customers will flock to them.

Education might be key, but, in the U.K. as well as several other countries, functional (which differs from true) illiteracy and

innumeracy can present some problems. Around 16 percent of adults in England can currently be described as “functionally illiterate,” with literacy levels at or below those expected from someone 11 years of age. Many are also below average for numeracy.

The U.K.’s International Longevity Centre’s “Making the system fit for purpose” research report points out that only half those with DC pensions said they understood what an annuity is quite or very well, and just 20 percent of those with DC pension pots understood what an enhanced annuity was.

These shortfalls exist elsewhere in the world as well, which means the enhanced annuity industry faces sizable global challenges in helping target customers to understand these annuities.

An additional challenge is a sufficient advisory population, which could help with education. In the U.K. there is currently only around one advisor per 1,500 members of the working population, so U.K. advisers never see the vast majority of the retiring population. Asian markets might fare better, as their ratio is one to two advisers per 100 members of the working population.

Add to this the growth of the “do-it-yourself” attitude about financial services in the U.K., and the potential clearly exists for an explosion of poorly equipped customers to make poorly informed decisions about their pension pots.

## AND SO?

Pre-retirees are highly concerned about the possibility of their pension pots running out before they die. Enhanced annuities clearly offer a fair deal for customers seeking to create a hedge for their longevity risk.

Enhanced annuities can be a useful option for many markets around the world. As the average ages of populations in many countries are rising fast, an effective longevity hedge becomes more important and enhanced annuities provide a useful alternative. The tools and processes for underwriting these annuities efficiently and cost-effectively already exist and have been tested on an industrial scale, meaning the technology can quickly be translocated into other markets where customers are looking for a fair deal for retirement. ■



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# 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.

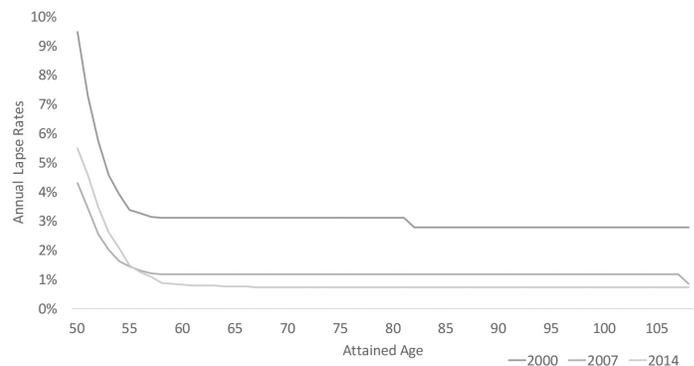
## ASSUMPTION ANALYSIS

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.

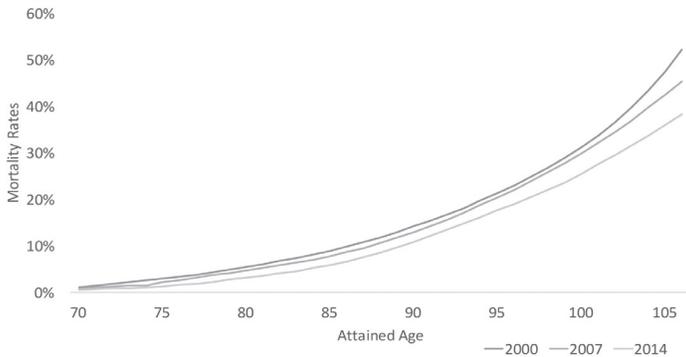
## LAPSE RATES—BP: 3-YEAR, IP: 5% COMPOUND



## 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.

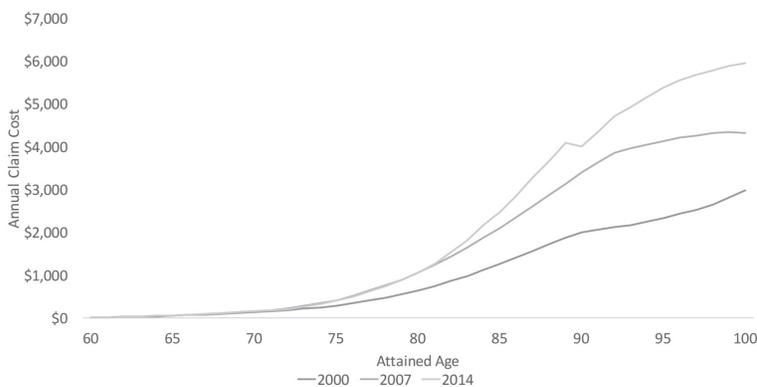
## MORTALITY RATES



## 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.

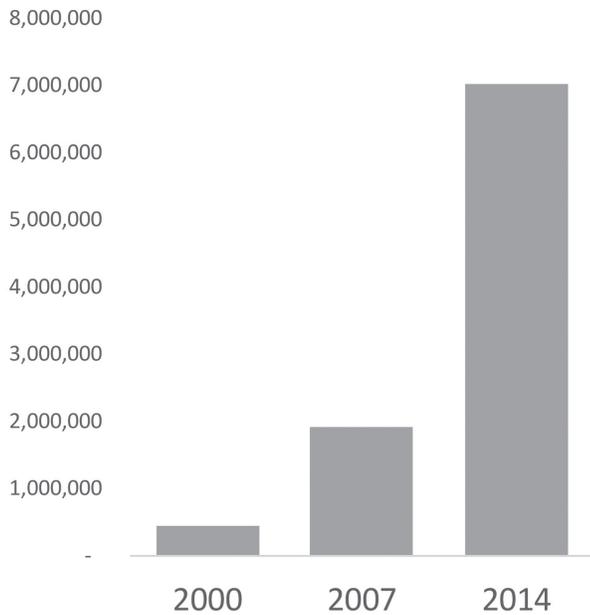
YEAR	Average Industry Investment Income Assumptions
2000	6.4% all years
2007	5.9% all years
2014	4.6% all years

## ASSUMPTIONS SUMMARY

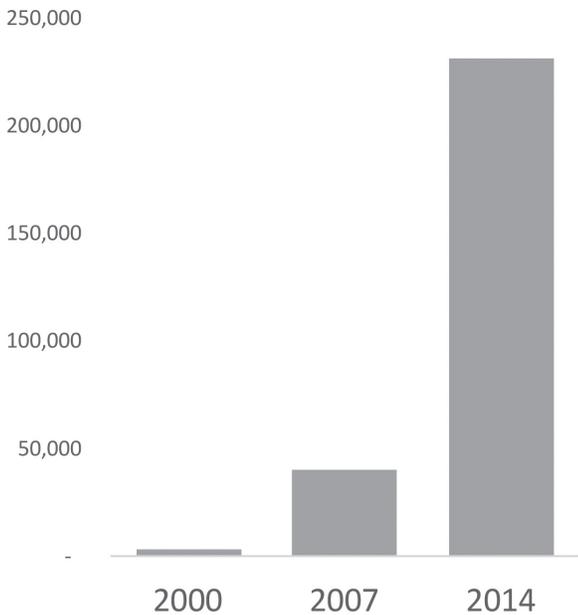
It is especially notable that, since 2007, all of the major LTC assumptions used in pricing have become more conservative. Lapse rates have been virtually de-risked, interest rates are at historical lows, while mortality and morbidity reflect more conservative best estimates with deliberate additional 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-

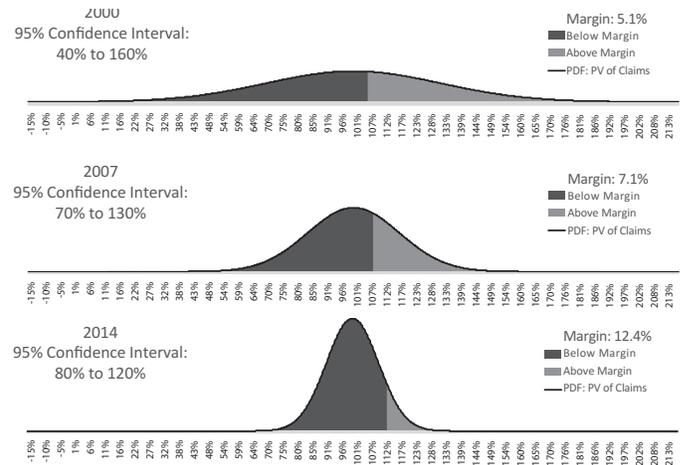
ening of the policy language to prevent abusive utilization of benefits for assisted living facilities, waiver of premium, and restoration of benefits.

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.

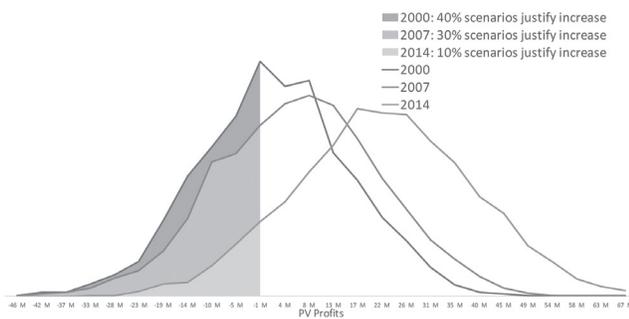
YEAR	Average Industry Premiums for the Same Benefit Amounts
2000	100% baseline for 2000. Highest premiums were 200% of lowest.
2007	125% higher than 2000. Highest premiums were 160% of lowest.
2014	215% higher than 2000. Highest premiums were 145% of lowest.

## 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



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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

# Suicide Facts and Prevention

By Jason McKinley

Although suicide is a leading—and rising—cause of death in the United States, efforts to increase awareness of it have failed. Campaigns such as Race for the Cure® for breast cancer, for one, attract 10 times as many participants as do the Out of the Darkness suicide prevention walks, despite the fact that annual U.S. death counts for breast cancer and suicide are nearly identical. There are also more than twice as many suicides as homicides and suicides outpace homicides at every age starting in the early teens, but homicides receive a comparatively overwhelming majority of press.

Of the 10 leading causes of death in the U.S., only suicide death rates are currently increasing.<sup>1</sup> Rates have been climbing steadily for more than a decade, and in 2013 (the latest year for which

“Of the 10 leading causes of death in the U.S., only suicide death rates are currently increasing.”

statistics are available) the rate was 21 percent higher than in 2000. Estimates of suicide’s annual financial costs in the U.S. indicate lost wages and productivity of \$44 billion stemming from suicide deaths and another \$6.3 billion for suicide attempts.<sup>2</sup>

This article examines some of suicide’s impact on the U.S. life insurance industry, and also briefly looks at current practices and thoughts regarding suicide prevention.

## SUICIDE RATES AND TRENDS

Suicide impacts millions of families in the U.S. as well as worldwide. And its impact is not limited to death: For every death by suicide it is estimated that 20 times as many people worldwide

are injured but do not die in suicide attempts<sup>3</sup>—attempts that too often result in disability or permanent impairment.

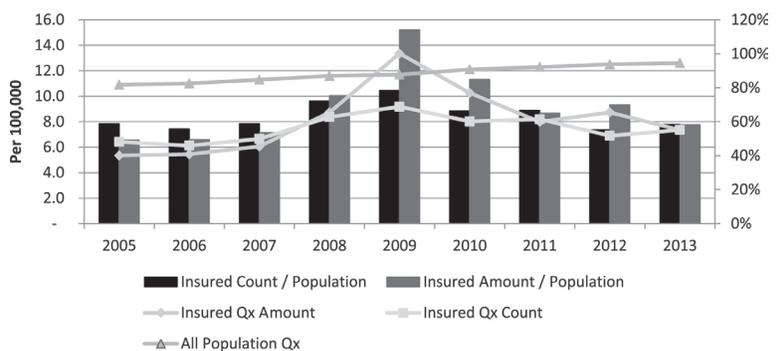
People who choose highly lethal means of suicide such as firearms, suffocation or hanging, have, not surprisingly, correspondingly high fatality rates, yet comprise just 7 percent of all who attempt suicide. The overwhelming majority of suicides are attempted using poison or deliberate overdose, but only 2 percent of those attempts prove fatal.

The following table shows 2013 fatality rates for several suicide methods in the U.S.

United States Suicide Attempt Methods (2013)				
	Fatal	Nonfatal	Total	% Fatal
Firearms	21,175	3,991	25,166	84%
Suffocation/Hanging	10,062	2,838	12,900	78%
Poisoning/overdose	6,637	260,175	266,812	2%
Falls	976	3,931	4,907	20%
Cut/pierce	783	109,862	110,645	1%
Other	1,449	112,587	114,036	1%
Unspecified	67	785	852	8%
<b>Total</b>	<b>41,149</b>	<b>494,169</b>	<b>535,318</b>	<b>8%</b>

Source: Centers for Disease Control and Prevention WISQARS™

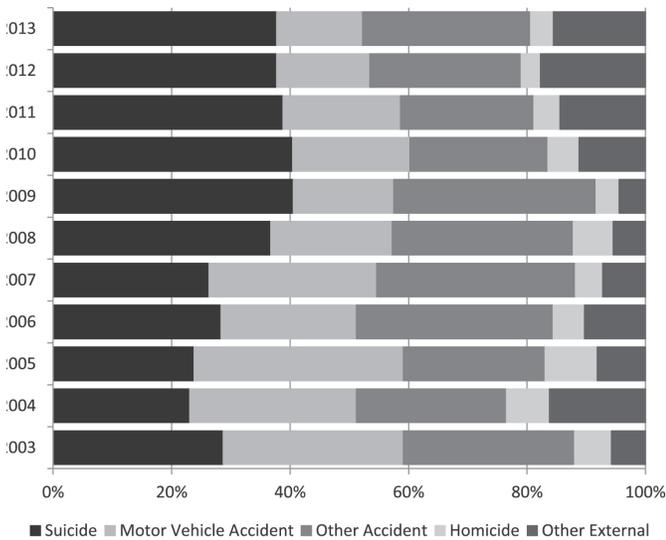
While suicide mortality is generally found to be lower for the insured population than for the general population, the ratio of the suicide rate by insureds compared to that for the total population increased dramatically at the peak of the most recent recession.



Sources: RGA, Centers for Disease Control, U.S. Census Bureau

After the financial crisis of 2008 and during the ensuing recession, suicide became the most common non-medical cause of death for the insured population. Alarming, the numbers have not receded back to pre-recession levels:

RESULTS BY *AMOUNT*: DISTRIBUTION OF NON-MEDICAL DEATHS BY YEAR - RGA 2003-2013

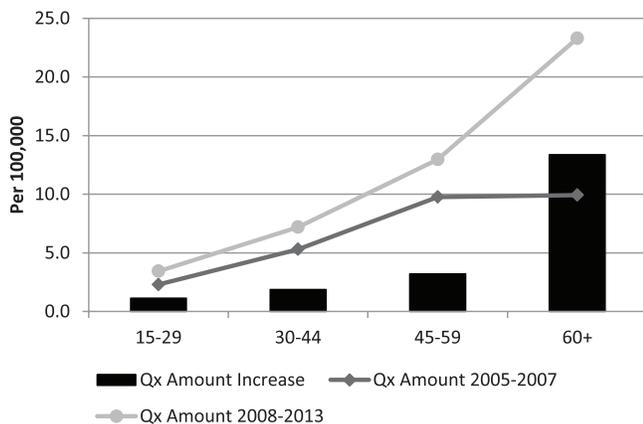


Source: RGA

Face amount bands further inform the discussion:

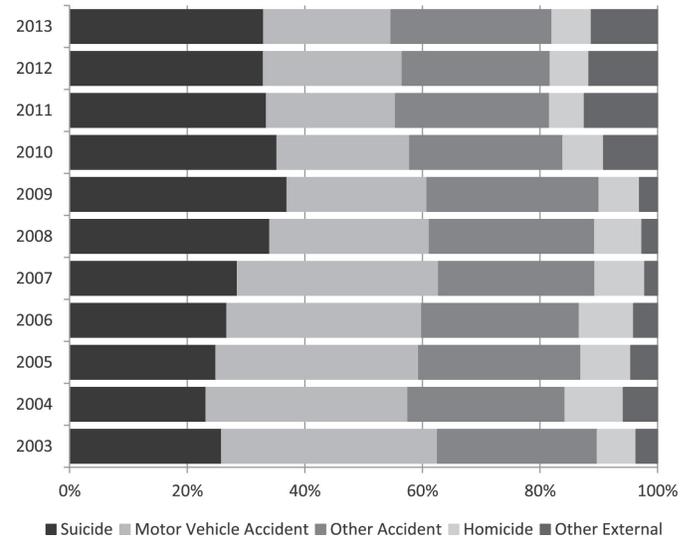
- Suicide percentages relative to total causes of death typically increase with face amount once the bands climb past \$50,000.
- Policies with face amounts above \$1 million had the largest increase in suicide rates during the period following the 2008 economic recession.
- Average claim sizes also increased following the recession. Average claim size is historically larger for suicide claims as a cohort than for all other (non-suicide) claims, and the gap is now even wider.

U.S. SUICIDE BY AGES (RGA 2005-2013 AMOUNT)



Source: RGA

RESULTS BY *COUNT*: DISTRIBUTION OF NON-MEDICAL DEATHS BY YEAR - RGA 2003-2013



Source: RGA

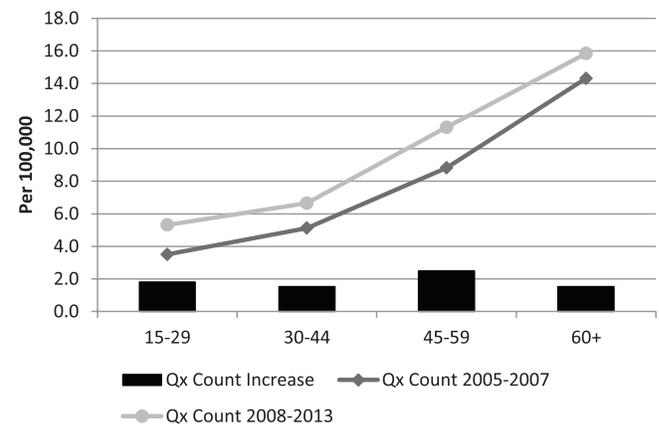
Unlike the consistently increasing pattern of population suicide rates, insured suicide rates exhibit greater variability as well as a more active response to economic conditions.

The following charts compare insured suicide rates prior to the recession to those since 2008 (considered the start of the recession). The rate of suicide by amount for individuals ages 60+ has increased to more than double the 2005–2007 rate.

TIMING AND CONTESTABILITY

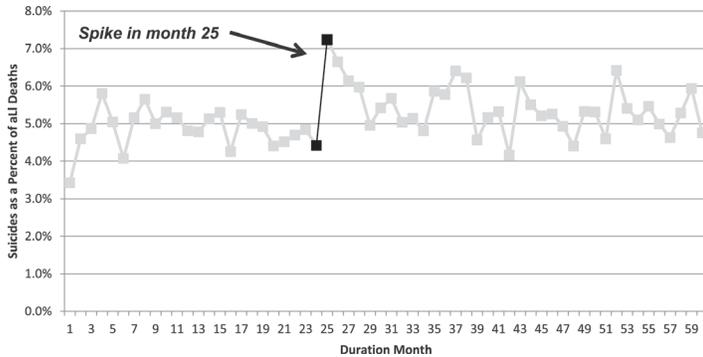
Insurance policies in the U.S. typically have suicide exclusions for the first two policy years. Given that those who die by sui-

U.S. SUICIDE BY AGES (RGA 2005-2013 COUNT)



cide often plan for it in a concrete manner, one might expect the suicide rate to increase after the contestability period ends. This conclusion is borne out by the evidence in Figure 7 (below) in no uncertain terms:

### SUICIDES AS A PERCENT OF ALL DEATHS BY DURATION MONTH



Source: RGA

As is clear from the graph above, suicides spike immediately after the contestability period ends and continue to remain elevated, although that first month shows the largest impact. From 2009 through 2013, approximately 5 percent of all paid claims by amount went to beneficiaries of suicide deaths beyond the contestability period.

For some of these individuals, the plan to commit suicide after the contestability period might have been their primary motivation for remaining alive until that point.<sup>4</sup>

### PREVENTION AND DEMOGRAPHICS AT RISK

Suicide prevention begins by understanding which individuals are mostly likely to be at risk. For the susceptible, suicide becomes an option when their pain (whether physical or psychological) is greater than their resources to cope with that pain. Societal determinants can include childhood abuse and a lack of current social supports. Clinical factors can include psychiatric dimensions (PTSD, substance abuse/addiction, depression, anxiety), physical symptoms (pain and insomnia), and thoughts (suicidal ideation/planning, feelings of hopelessness and/or despair). Studies have shown that more than 90 percent of people who commit suicide have underlying mental illness.<sup>5</sup> Economic stressors such as unemployment have also been shown to contribute to suicide rates.<sup>6</sup> Additionally, certain neurocognitive factors can play a role, though it should be noted that these factors are not specific to suicide.

Demographics of the at-risk population also merit attention. Biomarker evidence indicates that suicidal behavior is partly



heritable. Interestingly, all individuals who have accessed health care in the last 30 days are at higher risk for suicide. Younger women are statistically more likely to attempt suicide than are younger men, but that gap decreases with age. Additionally, western U.S. states have much higher suicide rates than do eastern states.<sup>7</sup>

Life insurance underwriting may help identify individuals who might be higher suicide risks. In an internal review of causes of death by known impairment, individuals rated for any type of mental disorder were 2.5 times more likely to die by suicide than were very closely matched individuals without a mental illness impairment.

Many suicides are preventable. Recent research has uncovered several actions and initiatives that could potentially generate significant reductions in the current suicide rate:<sup>7</sup>

- Psychotherapy is a proven effective treatment and can be used in hospital emergency departments.
- Healthy connectedness and the existence of social support are important for suicide prevention. These need not be overly personal: a study observing the effect of “caring contact” postcards as a means to follow up with some at-risk patients once released from observation showed that the members of the group who received these postcards had a higher prevalence of positive outcomes regarding suicide attempts than those who did not.
- The relatively new “Suicide Implicit Association Task” (IAT) questionnaire, which takes five to 10 minutes to complete, can be predictive of who is at risk and can be effectively employed in hospital emergency departments.
- Motor vehicle poisoning deaths accounted for approximately 1,000 suicides in 2012. These deaths can be prevented via

a simple shut-off system added to motor vehicles that could prevent the engine from running if a dangerous carbon monoxide threshold is breached.

- Finding ways to restrict firearm access for individuals at risk, as firearms are currently the most common means of accomplishing suicide in the U.S., could also be an effective reducer of suicide risk.

## CONCLUSION

In recent years, suicide risk has grown and developed in several unanticipated ways. Insurers mitigate some of their back-end risk via contestability periods, but going forward, insurers might want to consider how products or underwriting can be structured to strengthen their ability to help insureds through times of pain or peril. ■

For more research and analysis on this topic, please visit <http://www.rgare.com/knowledgecenter/Documents/SuicideGlobalInsightsandUSInsuranceAnalysis.pdf> to read *Suicide Global Insights and U.S. Insurance Analysis (2014 RGA; J Callaway, T Chen, T Pickett)*.



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