Results of the 2019 SOA Life Reinsurance Survey

By Anthony Ferraro and Joe Lario

The North American Individual Life reinsurance market experienced a 3 percent boost in new business volume for recurring Individual Life new business in the U.S. whereas Canada experienced stronger growth at 10 percent during 2019.

Group recurring in-force premiums decreased by 6 percent in the U.S. in 2019, although premiums increased 7 percent in Canada over the same time period. Table 1 summarizes the most recent results from the 2019 SOA Life Reinsurance Survey.

ABOUT THE SURVEY

The SOA Life Reinsurance Survey is an annual survey that exhibits individual and group life data from U.S. and Canadian life reinsurers. Survey results are based on financial information self-reported by reinsurance entities and include new business production and in-force figures, with reinsurance broken into the following categories:

- Recurring reinsurance: Conventional reinsurance covering an insurance policy with an issue date in the year in which it was reinsured. For purposes of this survey, this refers to an insurance policy issued and reinsured in 2019.
- Portfolio reinsurance: Reinsurance covering an insurance policy with an issue date in a year prior to the year in which

Table 1
Reinsurance Landscape

	Individual Life New Business Volumes ($ billions)			Group In-force Premiums ($ millions)		
	2018	2019	% Change	2018	2019	% Change
U.S.						
Recurring	$521	$535	3%	821	772	-6%
Portfolio	$101	$91	-10%	4,490	5,612	25%
Retrocession	$7	$7	7%	0	0	n/a
Total	629	633	1%	5,311	6,384	20%
Canada						
Recurring	172	189	10%	125	134	7%
Portfolio	19	6	-70%	0	0	n/a
Retrocession	7	6	-15%	0	0	n/a
Total	198	201	2%	125	134	7%

it was reinsured or financial reinsurance. One example of portfolio reinsurance would be a group of policies issued during the period 2005–2006, but being reinsured in 2019.

- Retrocession reinsurance: Reinsurance not directly written by the ceding company. Since the business usually comes from a reinsurer, this can be thought of as "reinsurance of reinsurance."

Individual life results are based on net amount at risk, while the group life results are based on premium.

The figures are quoted in the currency of origin with U.S. business provided in USD and Canadian business provided in CAD.

While we reach out to all of the professional life reinsurers in North America, please note that there may be companies that did not respond to the survey and so are not included. For the first time, RMA has been included in the study. RMA represents Korean Re, Toa Re and other reinsurers and both 2018 and 2019 numbers for RMA have been presented to enable an accurate year-over-year comparison.

The remainder of this article discusses this year's results in more detail and looks at overall life reinsurance trends. We will begin by looking at the results for the U.S. individual life market.

UNITED STATES—INDIVIDUAL LIFE

Recurring New Business

Recurring individual life new business recorded an increase in production for the fourth year in a row after a prolonged period of decreases. Compared to 2018, U.S. recurring new business rose nearly 3 percent from $521 billion to $535 billion in 2019. A contributing factor for the increase is believed to be the continued growth in accelerated underwriting programs in which the collection of fluids is replaced with alternative data sources. Since these programs are still relatively new to the market, direct writers have reached out to reinsurers for assistance in both developing the programs and taking a share of the risk. Similarly, the emergence of new digital distribution channels has prompted sharing of risk in light of new target markets.

Figure 1 shows the annual percentage change in U.S. recurring new business production over the last 10 years. Although the recent rate of increases has trended down, since 2015, individual life recurring new business has grown at a CAGR of 7 percent.

In 2019, 82 percent of recurring new business production was yearly renewable term or YRT and 18 percent was coinsurance, in line with prior years.

To estimate an overall cession rate for the life reinsurance industry, we compare new direct life sales to new recurring reinsurance production. According to LIMRA,[1] individual life insurance sales increased 5 percent in 2019 based on both premium and face amount, mainly driven by continued strong sales of indexed universal life. Taking these results together with the life reinsurance production levels results in an estimated cession rate for the industry of 29 percent for 2019, which has remained fairly consistent over the past few years. As seen in Figure 2, the estimated cession rate has hovered around 25 percent to 30 percent since 2010.

The top five companies by market share in the U.S. reinsurance market remained the same as in 2018 and represent 86 percent of 2019 market share as compared to 87 percent last year

Figure 1
U.S. Percentage Change in Recurring New Business 2010–2019

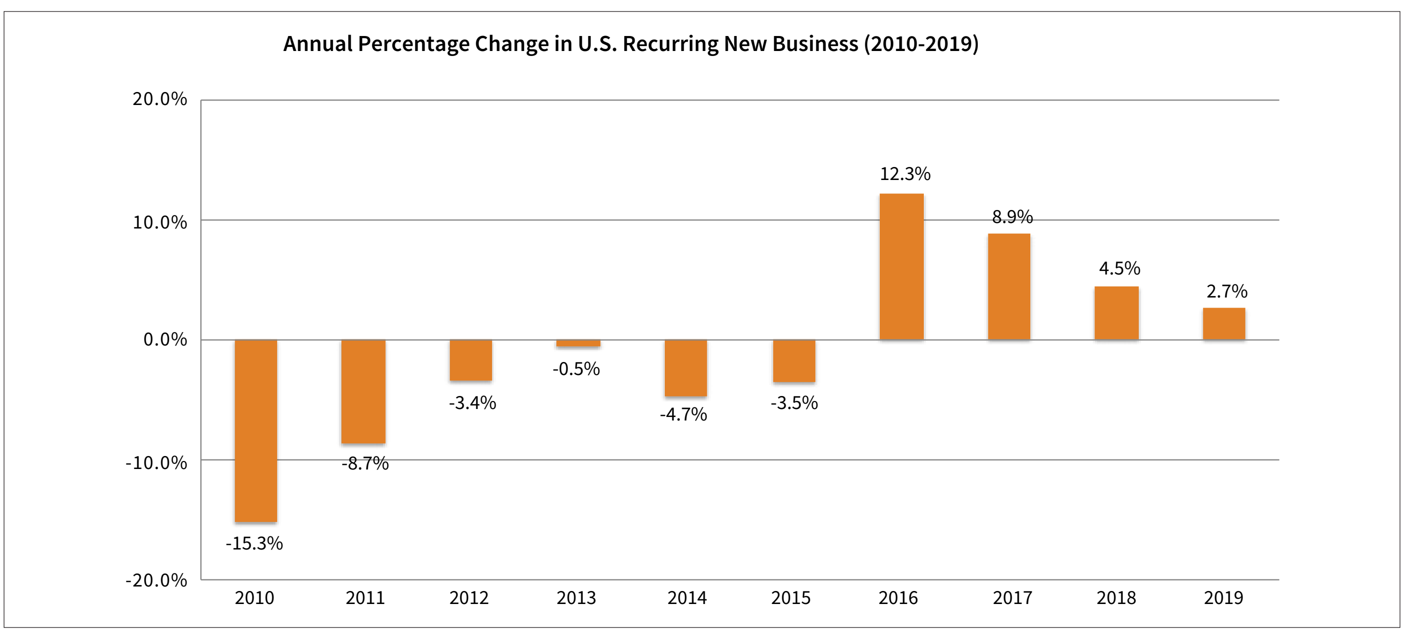
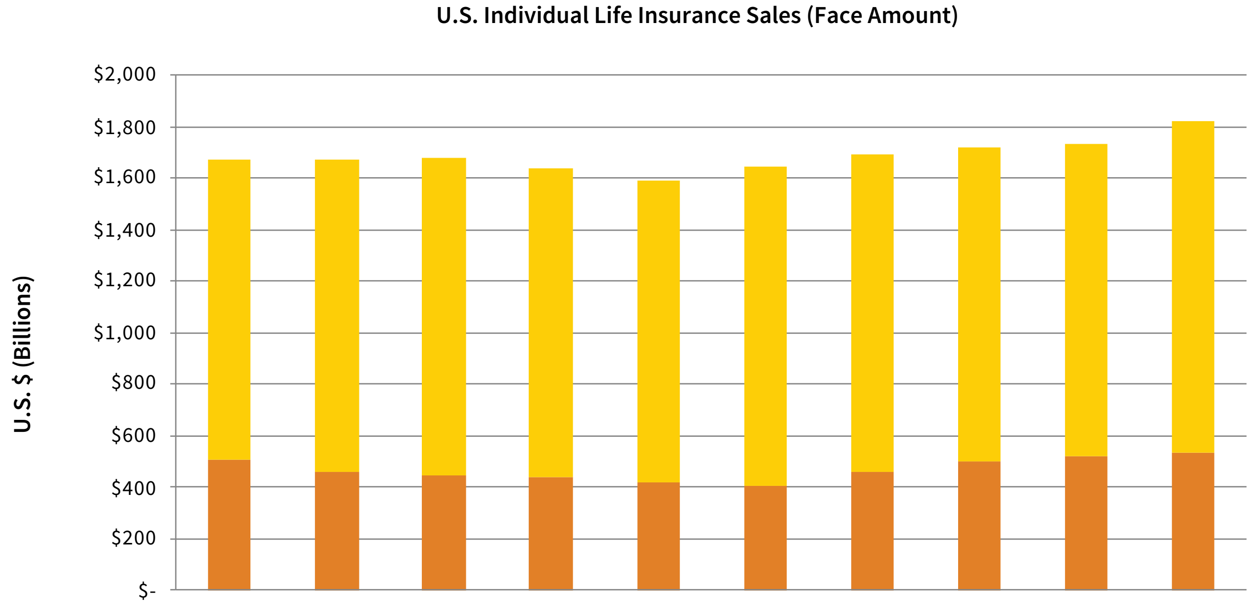


Figure 2
U.S. Individual Life Insurance Sales (Face Amount)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
% Reinsured	30%	28%	27%	27%	27%	25%	27%	29%	30%	29%
Amt Retained	$1,168	$1,211	$1,234	$1,197	$1,168	$1,240	$1,233	$1,222	$1,214	$1,287
Amt Reinsured	$505	$461	$445	$443	$422	$407	$457	$498	$521	$535

(see Table 2). SCOR once again led all reinsurers in recurring individual life new business. In 2019, SCOR reported $113 billion of recurring business, a 1 percent decrease from 2018, resulting in a 21 percent market share. The next three largest reinsurers by market share are tightly clustered. Swiss Re increased their market share in 2019, now holding 20 percent of the market, reporting $106 billion. An increase in reported recurring new business production levels in 2019 increased Munich Re's market share to 19 percent. RGA rounds out the largest reinsurers with a market share of 18 percent. Of the 10 reinsurers reporting results, seven reported an increase in recurring new business volumes as compared to 2018.

Portfolio New Business

For survey purposes, portfolio reinsurance includes in-force blocks of business and financial reinsurance. As a result, there are often large fluctuations from year to year in reported port-

Table 2
U.S. Recurring Individual Life Volume ($ billions USD)

Company	2018		2019		Change from 2018 to 2019
	Assumed Business	Market Share	Assumed Business	Market Share	
SCOR Global Life (US)	$115	22%	$113	21%	-1%
Swiss Re	$94	18%	$106	20%	13%
Munich Re (US)	$93	18%	$100	19%	7%
RGA Reinsurance Company	$94	18%	$96	18%	2%
Hannover Life Re	$56	11%	$43	8%	-24%
RMA	$14	3%	$21	4%	45%
Canada Life	$20	4%	$20	4%	4%
General Re Life	$13	2%	$16	3%	26%
PartnerRe	$14	3%	$11	2%	-18%
Optimum Re (US)	$9	2%	$9	2%	6%
Total	**$521**	**100%**	**$535**	**100%**	**3%**

folio results, and 2019 was no exception. New portfolio business dropped from $101 billion in 2018 to $91 billion in 2019. Munich Re accounts for $55 billion (61 percent) of the 2019 portfolio new business followed by Swiss Re at $31 billion (34 percent) and RGA with $3.5 billion (4 percent). There is only one other company reporting portfolio new business in 2019 and that is SCOR with $0.5 billion (1 percent).

Figure 3 illustrates the portfolio new business written over the last 10 years and the volatility of the results. As reported previously, the large spikes in 2011 and 2013 were the result of a merger/acquisition within the life reinsurance industry, or, as is the case with 2016, the result of a large in-force transaction.

Retrocession

Retrocession new business volumes are considerably smaller than recurring new business and portfolio new business. As noted in last year's survey, from 2005 to 2015, retrocession production in the U.S. had been on a downswing, dropping from $43 billion in 2005 to $5 billion in 2015. Following an uptick in 2016 to $8 billion, retrocession new business dropped back to approximately $7 billion in 2017 and remained flat through 2019. The primary retrocessionaires in 2019 (unchanged from 2018) were Berkshire Hathaway Group, AXA Equitable and Pacific Life.

CANADA—INDIVIDUAL LIFE

Now we will examine the results for the Canadian individual life market.

Recurring New Business

Recurring individual life new business in Canada ticked upward for the fifth consecutive year. Reported recurring new business totaled $189 billion in 2019 which is a 10 percent increase over 2018. Figure 4 shows the annual percentage change in recurring new business over the last 10 years. Since 2014, recurring new business in Canada has grown at a 6 percent CAGR after a period of minimal growth and declines.

According to LIMRA, Canadian direct individual life sales ended 2019 up 8 percent as compared to 2018 on an annualized premium basis and up 5 percent on a face amount basis.[2] The impact of the

Figure 3
U.S. Portfolio Business Trend

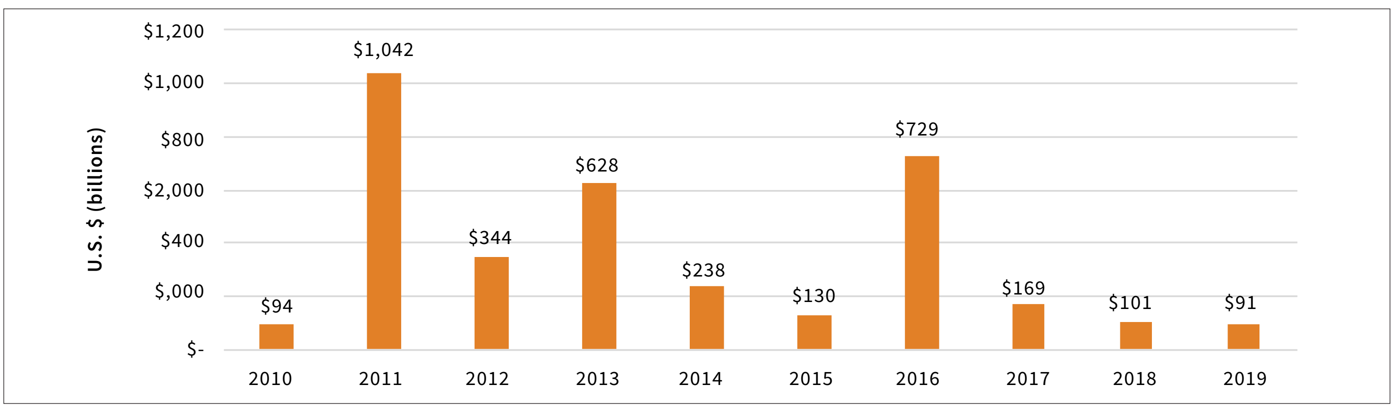


Figure 4
Canadian Percentage Change in Recurring New Business 2010–2019

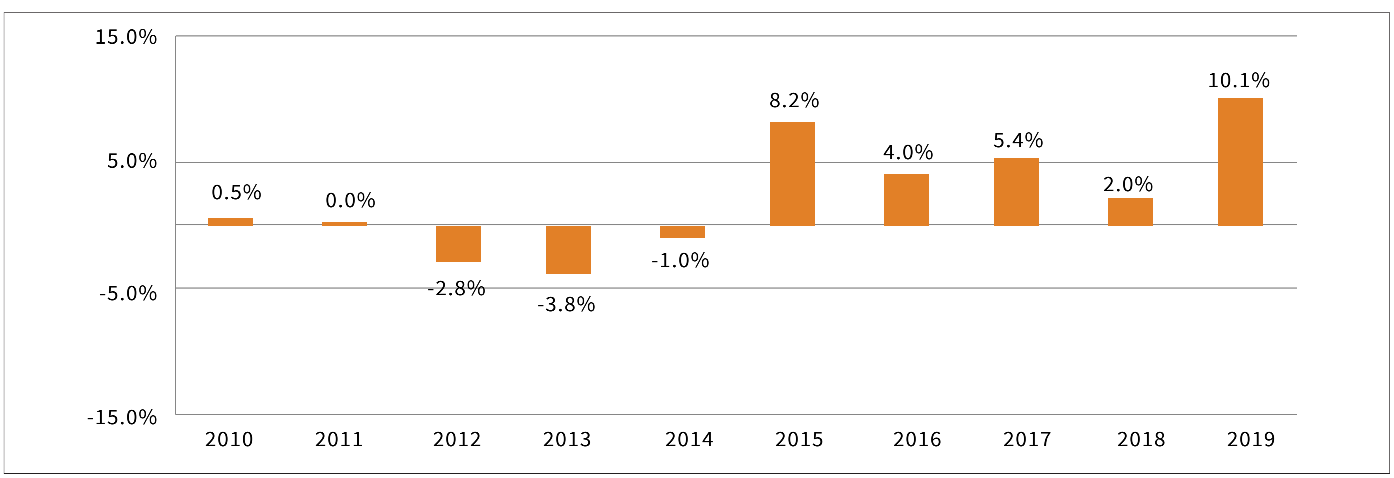
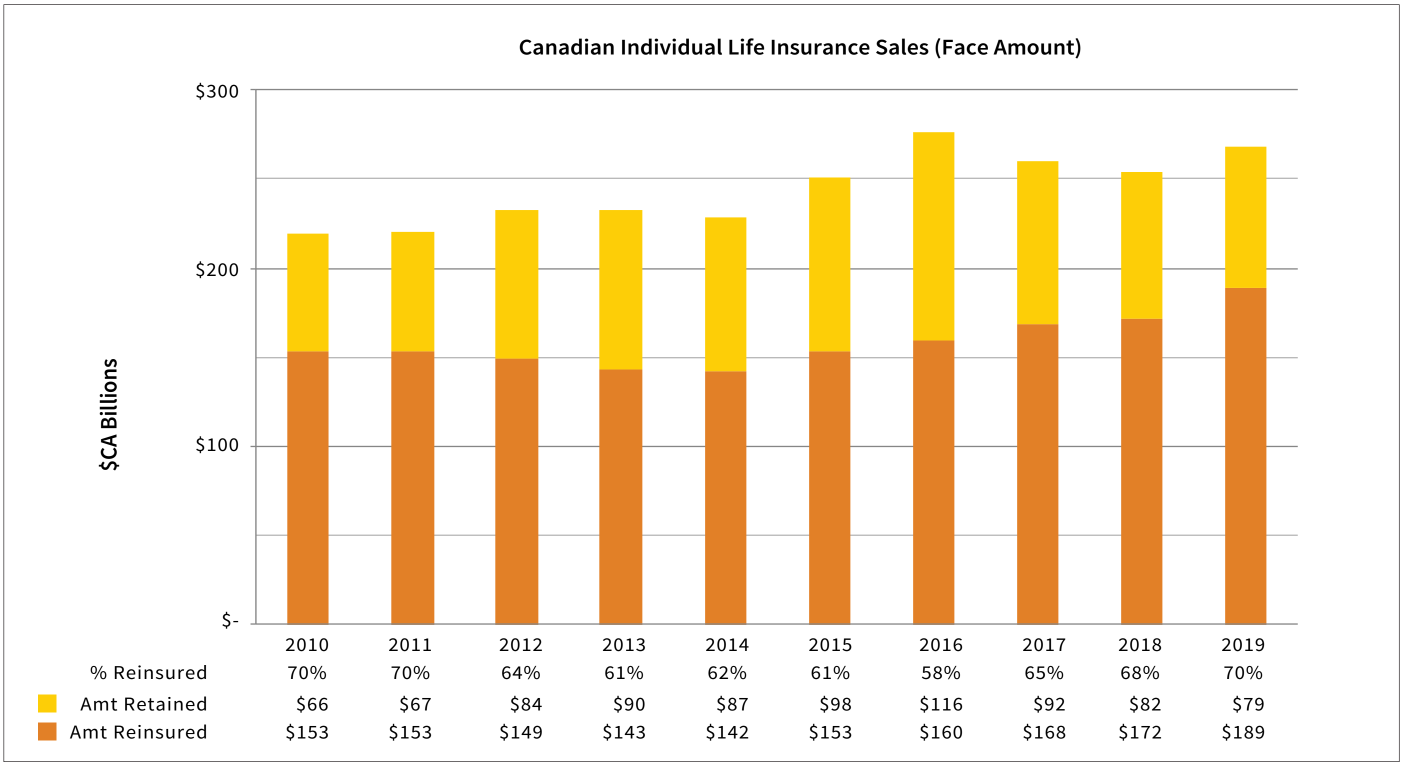


Figure 5
Canadian Individual Life Insurance Sales (Face Amount)



tax law changes that took effect at the beginning of 2017 is starting to give way to more normal market activity. This is further buoyed by the introduction of new Participating Whole Life products into the market and the increasing prevalence of fluidless programs.

The estimated cession rate for 2019, which is based on a comparison of direct life sales to recurring reinsurance volumes, edged up from 68 percent to 70 percent. As shown in Figure 5, the cession rate had steadily dropped from 2010 to 2016 in Canada before trending up again from 2017 on. As well, the estimated Canadian cession rate is much higher than that of the U.S., where approximately 29 percent is reinsured.

In terms of market share, the top three life reinsurers in the Canadian market are Munich Re, RGA and Partner Re. In 2019, they collectively represent 70 percent market share. Munich Re topped recurring new business writers reporting $54 billion, a 19 percent increase over 2018. RGA followed with $46 billion (10 percent increase from 2018) and Partner Re rounded out the top three with a reported $33 billion (36 percent increase from 2018).

Of the eight reinsurers reporting to the survey, seven reported increases in recurring new business volumes from 2018 to 2019. Table 3 summarizes assumed volumes and market share by reinsurer and compares 2019 and 2018 results.

Table 3
Canada Recurring Individual Life Volume ($ billions CAD)

Company	2018		2019		Change from 2018 to 2019
	Assumed Business	Market Share	Assumed Business	Market Share	
Munich Re (Canada)	$46	27%	$54	29%	19%
RGA Re (Canada)	$42	24%	$46	24%	10%
PartnerRe	$24	14%	$33	17%	36%
Swiss Re	$14	8%	$18	9%	22%
SCOR Global Life (Canada)	$27	16%	$17	9%	-37%
Optimum Re (Canada)	$12	7%	$13	7%	15%
Hannover Life Re (Canada)	$6	3%	$7	4%	19%
RMA	$2	1%	$2	1%	0%
Total	**$172**	**100%**	**$189**	**100%**	**10%**

Portfolio New Business

RGA and PartnerRe reported portfolio new business for 2019. RGA accounted for $5.1 billion of the $5.7 billion reported.

Retrocession

Similar to that of the U.S., retrocession business in Canada is considerably smaller than recurring new business and portfolio business. Canadian retrocessionaires were Pacific Life, Berkshire Hathaway and AXA Equitable. Pacific Life led the retrocessionaires with $4.1 billion, followed by Berkshire Hathaway ($1.7 billion) and AXA Equitable ($0.07 billion). Overall, the retrocession market in Canada decreased from $6.9 billion in 2018 to $5.9 billion in 2019.

UNITED STATES—GROUP LIFE

The next section discusses the group insurance results for the U.S.

U.S. group life reinsurers reported over $6.4 billion of in-force premium in 2019, up 20 percent from the $5.3 billion reported in 2018. Of this, recurring business accounted for $0.8 billion and portfolio business represented $5.6 billion.

Traditional (i.e., excluding portfolio and retrocession) in-force group premiums in the U.S. fell by 6 percent to $772 million in 2019 following an increase in premium in 2018. Nonetheless, group in-force premiums grew 41 percent from $546 million in 2012 to $772 million in 2019 (see Figure 6).

As shown in Table 4, the top three reinsurers in the U.S. group life reinsurance market for traditional business are Swiss Re, RGA and Munich Re. Collectively, these three companies account for 84 percent of the market. Swiss Re, RGA and Munich Re reported changes in 2019 traditional premium of -11 percent, 6 percent and -17 percent, respectively.

In-force group portfolio premium totaled $5.6 billion in 2019, up 25 percent from last year's $4.5 billion. Portfolio premium originates from two reinsurers. Canada Life Re reported $4.0 billion in portfolio premium in 2019, up from $2.8 billion in 2018. Munich Re reported $1.6 billion in 2019 versus the $1.5 billion reported in 2018.

Figure 6
U.S. In-force Traditional Group Premiums

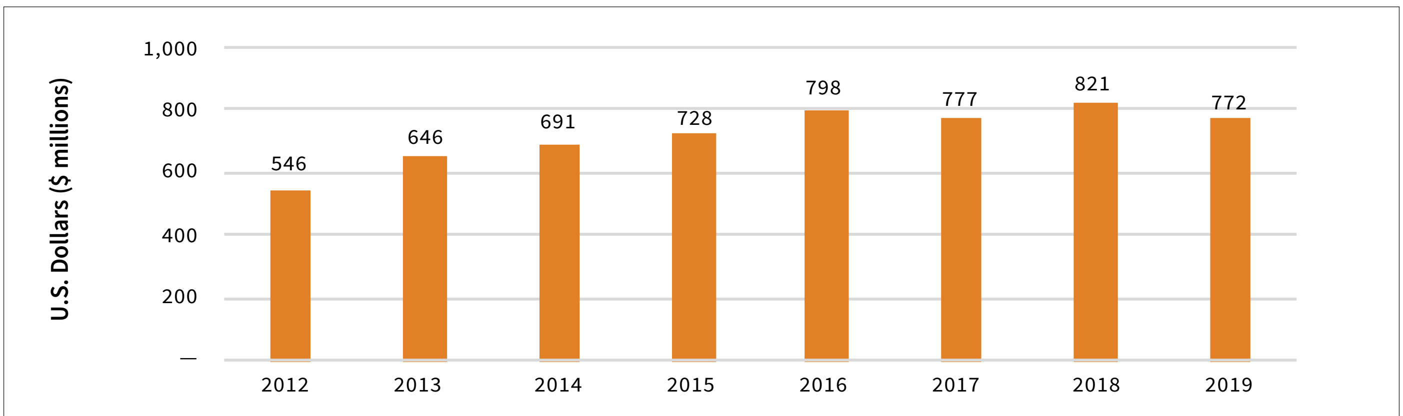


Table 4
U.S. Traditional In-force Group Premiums ($ millions USD)

Company	2018		2019		Change from 2018 to 2019
	Assumed Business	Market Share	Assumed Business	Market Share	
Swiss Re	$329	40%	$292	38%	-11%
RGA Reinsurance Company	$174	21%	$184	24%	6%
Munich Re (US)	$212	26%	$177	23%	-17%
SCOR Global Life	$32	4%	$51	7%	59%
General Re Life	$32	4%	$33	4%	2%
Group Reinsurance Plus	$34	4%	$30	4%	-11%
Hannover Life Re	$7	1%	$5	1%	-23%
Canada Life	$1	0%	$1	0%	38%
Optimum Re (US)	$0	0%	$0	0%	-25%
Total	**$821**	**100%**	**$772**	**100%**	**-6%**

Table 5
Canada Traditional In-force Group Premiums ($ millions CAD)

Company	2018		2019		Change from 2018 to 2019
	Assumed Business	Market Share	Assumed Business	Market Share	
Munich Re (Canada)	$83	66%	$93	69%	12%
RGA Re (Canada)	$19	15%	$19	14%	-2%
Swiss Re	$17	14%	$17	13%	-2%
Optimum Re (Canada)	$3	3%	$3	2%	-18%
SCOR Global Life	$3	2%	$3	2%	3%
Total	**$125**	**100%**	**$134**	**100%**	**7%**

CANADA—GROUP LIFE

Next, we look at results for the group life insurance market in Canada.

Group life reinsurers in Canada reported $134 million of in-force premium in 2019. Due to a reclassification by Munich Re, the entirety of the $134 million is from traditional business. For 2019, in-force group premium increased by 7 percent as compared to 2018. Similar to the U.S., the group market in Canada is dominated by three reinsurers: Munich Re, RGA and Swiss Re. These three account for 96 percent of the market share (see Table 5). Of the five reinsurers reporting, three reported decreases in traditional in-force premium versus 2018.

LOOKING AHEAD

Over the past four to five years we have seen a continued trend of robust growth in U.S. and Canadian life recurring new business. External factors will continue to shape the reinsurance landscape in the intermediate-term:

- Continued trend evolution in Individual Life sales due to COVID-19.
- Continued expansion of accelerated underwriting programs.
- Emerging needs for insurability of those currently uninsured or underinsured.
- Continued aging of the population and changing consumer preferences.
- Level of product agility as carriers make investments to address technology burden and develop innovative customer solutions.
- Continued regulatory uncertainty as carriers deal with PBR, IFRS17 and GAAP LDTI among other regulatory regimes.

Life reinsurers are equipped to support direct carriers in addressing the challenges posed by these factors. Reinsurers' expertise goes beyond traditional mortality and risk selection and includes financial reinsurance, reinsurance of inforce blocks and value-added expertise in areas such as the development of accelerated underwriting programs, assessment of new data sources, product development, development of data-driven insights, establishment of rules engines, predictive analytics, post-issue monitoring and risk management. This expertise and support can be invaluable to direct writers as many look to expand their offerings, improve outreach to consumers and enhance controls.

Thank you to all the reinsurers that participated in this year's survey. Complete results are available at ***https://www.munichre.com/us-life/en/perspectives.html.***

Note that Munich Re prepared this survey on behalf of the Society of Actuaries Reinsurance Section as a service to section members. The contributing companies provide the data in response to the survey. The data is not audited, and Munich Re, the Society of Actuaries and the Reinsurance Section take no responsibility for the accuracy of the figures.

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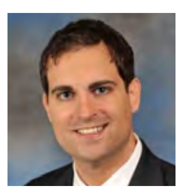

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ENDNOTES

1 LIMRA, "U.S. Individual Life Insurance Sales Trends, 1975 – 2018 Industry Estimates" and "U.S. Retail Individual Life Insurance Sales Technical Supplement, Fourth Quarter 2019"

2 LIMRA, "Canadian Individual Life Insurance Sales Technical Supplement (2019 Annual)"

How to Be Your Best Virtual Self

By Mairi Mallon

Editor's note: Mairi Mallon, aka @reinsurancegirl, *has some advice on looking good in this new working environment. The public relations and social media specialist has some top tips for our readers on how to come across professionally—both online and on a webcam in this new working from home (WFH) world*

When this is published, many of you will be in various different stages of lockdown or self-isolation in different parts of the world.

We are lucky that we work in such a robust financial sector. The re/insurance sector seems to be weathering the storm—and our global companies and their workforces seem to have adjusted to working from home, with most of us grateful just to have a job during these tumultuous times.

I will leave the personal toll this pandemic has taken on all of us to one side—a lot could and should be written about what people have gone through and the bravery of those on the front line. What I am going to focus on instead is helping you get it right when you are communicating virtually.

GET WITH YOUR ONLINE PRESENCE

There will be no conferences, dinners, awards, lunches, drinks—you name it—for a long time. There are two reasons this won't happen for a while. Firstly, it is bad form for the industry to be seen with a glass of champagne in hand while people are dying and economies around the globe are crashing. Secondly, it will be dangerous out there for some time. Would your company like to be known as the host of a dinner where five executives get seriously sick, hospitalized and, god forbid, die? After all, many men over 55—the very demographic of most of our leaders—have been felled by the disease.

ONLINE AUDIT

We are now communicating with each other virtually—and will be doing so for the foreseeable future. Now is the time to do an audit about how you look online. The first step? Google yourself. This is what everyone will do to you when they hear about you, see you on the same Zoom/Teams/Skype/GoToMeeting, listed as a speaker on a webinar, or find you on a delegate list at a virtual conference. If you don't appear, you have a lot of work to do.

LINKEDIN

The first thing that may come up is your LinkedIn profile. If you do not have a LinkedIn profile, now is the time to get one. This is not some new-fangled idiocy thought up by the kids in the office, but a well-established professional platform that is widely used in the insurance market—especially now. How else could you, at the moment, reach thousands of contacts with the click of a button? You will need: a picture (one that looks like you now), and a job title that says what you do. If your title is obscure—e.g., chief imagineer—perhaps you need to explain what you actually do, the company you work for, linked to the right page on LinkedIn. Remember to fill in the "about" section with all the key words you might be searched for, add in your experience, education and interests, and start growing your network. It will take about an hour. You can then start by adding in your colleagues and move on to your closest work contacts. Then every time you meet someone online, add them to your network. It is better than any Rolodex (note to young ones—this is what we used to use to keep our contacts in when dinosaurs roamed the earth).

THE TWITTERVERSE

And while you are at it, why not set up Twitter and Instagram? And if you have Facebook, make it look professional enough to be viewed by work colleagues.

Try to see if you can make your profile—the words about you and pictures—similar to your LinkedIn in order to give your "brand" continuity. If you work in a large corporation, it is likely they will have training and guidelines you can use. If not, do what a millennial would do—Google "how to …" and watch a YouTube video if you are struggling.

UNDER THE SPOTLIGHT

If you are not increasingly on video calls every working day, you will be in the minority of us working folks. Many executives are going on webinars or virtual roundtables from their home offices or kitchen tables. These new working practices call for a new etiquette and mindset. Filming yourself is new to most of us—speaking on camera and doing it well normally takes a lot of skill and training—but now we are now expected to do it naturally and look great.

First thing to do is to set the stage. This is not a frivolous thing, but simply think about what is behind you. Is lying in your bed a good corporate image? Is a kitchen counter filled with empty bottles of wine a good thing? I have a friend who works in film who has a dedicated area in his lounge for video calls. It looks amazing—there is a bookcase, a great chair, flowers, a plant and a picture. It does not look staged, but boy it is—and it gives out exactly the right image for him. I've taken a leaf from this book and now have an armchair which has a nice backdrop in my living room for external calls.

LIGHTS, CAMERA, ACTION …

Think about lighting and angle, which is so easy to fix. Put your video on your phone and walk around your house until you find good lighting. Usually it will be natural light coming through in front of you. Try different angles for your face on video too—if you are of a certain age, a camera that is at eye level or higher works better. No one wants to see up your nose, trust me.

I also check that I look OK. I have a jacket on the back of my chair, a hairbrush on my desk and a lipstick in my drawer. While I won't do full stage makeup, I like to not look like I've been stranded on a desert island for months.

People will put up with bad camera quality, but not bad sound. If your internet is not great, buy a booster, and if your microphone is not the best, go online and buy a mic as it will transform your calls.

And finally, pay attention. Look at your camera—yes it feels odd—not at the people on the screen, or yourself. And watch your body language—everyone can see you checking your phone or emails on the other screen. Don't wander off. Be courteous and at least look like you are listening as this will not go unnoticed.

PLAN AND MANAGE

Have a meeting agenda and a chair. With multiple people online, getting the most out of a meeting can be hard without rigorous planning. Make sure there is a purpose to the meeting, that the agenda is followed, and try to ensure that everyone can have their say. Think about what you want to say—if it is an important meeting make sure you have thought about the items at hand and have something worthwhile and interesting to say. Pay attention to people who would not normally offer input in a room as they may be happier to talk online, and their voice is important.

TAKE TIME TO SHOOT THE BREEZE

I've been adding in an extra 15 minutes to each call to be able to talk about how the other person is. Many people are isolated, frightened and/or overwhelmed. It is socially normal now to spend a few minutes at the start of a call talking about how we feel.

And finally,be adaptable and kind. As we all work through the new normal, many people will miss the nuances of other's actions and we may not know about personal hardships that others are going through behind the scenes.

Stay safe and if I don't see you online, see you on the other side … ■

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The Heart of the Matter

By Jing Lang

"Pass the rib spreader." A "Grey's Anatomy" scene I recently stumbled upon has new meaning for me.

After 10 years of binge-watching, for me "Grey's" can no longer be simply a romantic comedy full of medical mumbo jumbo (EKGs? CT scans? coronary artery bypass grafts?). When Preston Burke, the cardiothoracic surgeon, made this request during an open-heart surgery, I froze in awe. Now I knew exactly what that meant.

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In December 2019, my dad underwent a coronary artery bypass graft (CABG) surgery, following a heart attack. So much plaque clogging his arteries and blocking his blood flow meant that stents were no longer viable options. One of his arteries was fully clogged, another was over 90 percent. Two hours before the surgery we learned that some smaller branches were blocked as well. He required a quadruple bypass.

Having no idea how a surgery like this works, I was open to all input. My uncle, who spent his entire career in a hospital, informed us my dad's heart would need to be removed from his chest for this surgery and then put back. He seemed really confident, and the fact that he did spend his entire career in a hospital somehow gave credibility to his statement. But, while I am not a doctor, that didn't sound right.

Taking someone's heart out just seems to be a much more invasive thing than repairing the heart in place. My uncle has a track record of being very confident and very wrong at the same time. So, although I respect him as an elder, I've also learned not to take what he says at face value. After all, as a pharmacist for internal medicine, cardiovascular diseases are not remotely his specialty. I'm in awe of someone who can speak so confidently about topics he knows little about.

Unconvinced by my uncle, I decided to understand how the surgery really works. My dad is a curious person. He also wanted to know the steps involved. I think that if he could, he would watch his own surgery. My mom, on the other hand, covered her ears and went "la-la-la" when I was about to share my findings.

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There are two types of CABG surgeries (pronounced "cabbage"): on-pump and off-pump. My dad was about to receive an "on-pump" CABG, where his heart would be stopped in full by a heart-lung bypass machine while being operated on. This surgery has been performed around the world since 1960. In contrast, the "off-pump" surgery does not use a heart-lung bypass machine and the heart remains pulsing while being operated on, hence its other name: "beating heart" surgery. It's a relatively newer procedure (first done in the early 1990s) and was not an option offered to us.

The main steps of an on-pump CABG are:

1. Prepare the arteries or veins that will be used as bypass grafts. These can be taken from the leg (saphenous vein), the arm (radial artery) or inside the chest (internal mammary artery).

2. Make a long incision in the center of the chest, directly above the breast bone (sternum).

3. Saw down the breast bone in half and hold it open to allow access to the heart and coronary arteries (this is where Dr. Burke's rib spreader comes in).

4. Install a heart-lung bypass machine that temporarily allows the heart to stop beating while it is being operated on.

5. Take an artery or vein from the first step and sew it on right below the blocked segment of the coronary artery and attach the other end to the aorta. This "bypass" redirects the blood flow around the blockage. (My dad needed four of these.)

6. Once the grafts are in place, turn off the pump to allow the heart to beat and blood flow to return to normal.

7. Use metal wires to hold the breast bones back together (since they won't grow back. I bet he can't wait to pass through airport security!)

8. Suture the chest incision back together.

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This is crazy! The idea of sawing someone's chest and manually stopping the heart sounds extreme. While I managed to keep calm while I explained the procedure to my dad, I was mortified by the possibility he wouldn't survive the surgery. After all, he has smoked nearly two packs a day for 35 years and has a congenital heart defect. The likelihood that his heart and lungs wouldn't restart after getting off the pump seemed very real to me.

What upset me even more is what he has done to his body is self-imposed. My dad had roughly 400,000 cigarettes on his resume. (It's the times and the environment, he says.) He also made poor food choices—I didn't realize how badly he ate until I was helping him fill out a pre-surgery questionnaire. All he ate was meat and refined carbohydrates (white rice, white flour). No fruit. No vegetables. No whole grains. Nada. It's no wonder he also suffers from high cholesterol, high blood pressure and high blood glucose, all key factors leading to coronary artery disease.

Underlying all this is the immense guilt that I had from having little influence on his dietary choices because I live so far away. The doctor told us that based on the CT, it looks like my dad's arteries have been clogged for years and some have already calcified. Perhaps it's him playing tennis three times a week for the last 20 years and daily consumption of 3-4 liters of Chinese green tea that saved him.

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My dad's ordeal is my second intimate contact with heart diseases in 2019. When I joined iptiQ in March, I helped build a critical illness (CI) product—a health insurance product that pays a lump-sum benefit upon diagnosis of certain diseases and conditions. Among the conditions covered are stroke, heart attack and coronary artery bypass surgery—all categorically cardiovascular diseases which claimed over 850,000 lives in 2017, about one in three deaths in the U.S. Each year, cardiovascular diseases claim more lives than all forms of cancer combined.[1]

As the product manager, I shepherded this product through the product development process, bringing together pricing actuaries, underwriters, compliance, legal, claims, marketing, distribution partners and third-party vendors to ensure we built a product that customers want, distribution partners love to sell, and all within the risk tolerance of iptiQ and Swiss Re.

As with any insurance product (particularly health insurance), getting underwriting right is crucial. Underwriting is about admitting risk. If the bar is set too high, then too few people are given coverage; good for future claim experience but bad for per policy acquisition expenses, and you are not making friends among agents (higher decline rate for their clients and less commission). If set too loosely, then agents are happy and per policy acquisition expenses are OK, but you may have adverse experience later since the population admitted are in worse health than desired. Although for a guaranteed renewable product like this, we (the carrier) have the right to increase the premium if the future experience is expected to deteriorate. It's not really desirable, as increasing the premium would drive healthy lives out (since they can get cheaper coverage elsewhere), and the carrier ends up with a pool of insured in poorer health.

The underwriting process for cardiovascular diseases in particular is meant to screen out those who are considered high risk. If you already are taking medication for chest pain or high blood pressure or diabetes, it's likely you won't qualify for the insurance policy, because you already exhibit early symptoms of heart disease. An analogy would be buying home insurance that will pay if your house burns down. You buy the insurance when your house is fine. But if your stove is already on fire, then no one is going to insure that because the whole house coming down is almost inevitable.

According to the Academy of Life Underwriting, there are seven major cardiovascular risk factors: age, gender, family history, smoking, hyperlipidemia (high cholesterol), hypertension (high blood pressure) and diabetes mellitus. While the first three risk factors cannot be changed (aka "unmodifiable"), the latter four can via drastic lifestyle changes (aka "modifiable"). Physical activity is a huge part of that too. Although I don't believe my dad's tennis playing fully offset his smoking (as he claims!), I do think it was a huge plus to his overall health.

What current underwriting does not consider, however, is a person's ability to change their lifestyle after initial underwriting. Numerous studies demonstrate that a whole-food, plant-based diet can retard and even reverse coronary heart disease.[2,3] People considered high risk for heart attack who followed a plant-based diet for six weeks reported a significant drop to both their LDL (bad cholesterol) and blood pressure. Many were able to get off their medication altogether.

So, what should you do? If you want to mitigate the financial risk of getting diagnosed with a critical illness, work with your agent or do your own research (I recommend both) to find the insurance product most appropriate for you. Buy it while you are qualified, make it part of your financial plan, then move on with your life. But just having the insurance will not improve your health in any way. If you want real change, to actually improve your health, you have to make permanent lifestyle changes. No one else can do it for you.

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A Chinese allegory goes like this. There once was a family of three brothers. All doctors. The youngest is well-known throughout the country as he performs life-saving surgeries. The middle one is also famous in the nearby villages: he helps people who are sick but do not yet require surgeries. And the oldest brother is not known at all. Someone asked the youngest brother, “how come your oldest brother is not well-known? Is he a bad doctor?” The youngest brother replied, “My oldest brother is actually the most skilled doctor of all, he helps people to not get sick in the first place.”

It’s sad but true that surgeries are often perceived to have more life-saving value than simple, daily dietary changes. It’s also much easier to measure surgeries performed than surgeries averted. The proverb, “what’s measured gets managed” has wide application in business, but when used alone, can also mislead and get people—health care professionals and the general public alike—to focus on the symptoms and not the root cause.

People often don’t recognize they need help until something is clearly wrong. That certainly was the case with my dad. The CT scans showed his arteries had been clogged for years, but he didn’t think he was unwell until the heart attack. In his mind, playing tennis three times a week more than offset his smoking habits, and he didn’t even consider his dietary choices to be poor. We are actually lucky that my dad survived the heart attack and lived to tell his tale. Now thinking back, my dad lost two of his teammates on the tennis court; both were sudden and left their families devastated.

It is incredible how many people came to me with their family stories after they heard about my dad. Coronary artery disease has affected so many families. Stents have been put in, chests have been opened and reopened. Some recognized the detrimental impact their lifestyle had on their health and overhauled their life altogether—quit smoking, adopted a plant-based diet—while others carried on as is. Habits formed over decades are very difficult to change overnight. But ultimately, the decision to change (or not change) lies with the individual, regardless of the best intent from his family.

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The first time I heard the term healthspan was in the words of Dr. Peter Attia who focuses his practice on the science on longevity:

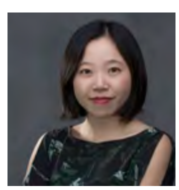
“…longevity is a function of lifespan and healthspan. Lifespan is simply the number of years you live. It’s driven by how long one can delay the onset of chronic disease and accidental death. Healthspan … is about preserving three elements of life for as long as possible:

- *Cognitive—executive function, processing speed and memory.*
- *Physical—stability, flexibility, mobility, strength, muscle mass, bone density, aerobic function, functional movement, freedom from pain and sexual function.*
- *Emotional—mindfulness, social support, sense of purpose, fulfillment and relationality.”*

I love how he compared and contrasted the two concepts. Although we have measured medical advancement by life expectancy (lifespan) previously, it’s time for us to consider healthspan in parallel. Yes, I care about how long my dad lives, but I care just as much about the quality of his life.

Thomas Edison said in 1903, “The doctor of the future will no longer treat the human frame with drugs, but rather will cure, and prevent disease with nutrition.” Fast forward 117 years; while some doctors advocate for nutrition, our health care system as a whole does not (yet). Until that happens, the initiative lies with us. We need to take personal responsibility to improve the quality of our lives and of those we love.

For my dad, if changing to a whole-food, plant-based diet can reverse his coronary heart disease and extend his healthspan, then sign me up. To convince him this works, I have to do it myself first and pull him along with me. The heart of the matter is, as David Sinclair put it, “We are in this together and no one gets out alive. With our time allotted, let’s all strive to help humanity be the best it can be.”



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ENDNOTES

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