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BEST'S REVIEW®

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A.M. BEST'S MONTHLY INSURANCE MAGAZINE

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BEST'S REVIEW®

June 2018 • Volume 119 • Issue 6 www.bestreview.com

A.M. BEST'S MONTHLY INSURANCE MAGAZINE

Science Of Life

Genomics and other evolving bioscience challenges raise sensitive underwriting and ethical questions for insurers.
Pages 47-66


Stone houses.
Aluminum bats.
Our client relationships.
(Things that last.)

From the **Editor's Desk**

The DNA Challenge

Many people, fascinated by their ancestry, have been signing up for genetic testing. A growing number also want more information about their genetic predisposition for certain types of illnesses, such as breast cancer and Alzheimer's.

This surge of interest in health information comes after the Food and Drug Administration in 2015 allowed direct-to-consumer test company 23andMe to inform customers if they possessed certain disease-carrying gene mutations that could be passed on to their children. The FDA last year gave approval for the company to sell genetic tests for disease risk directly to consumers. Recent studies indicate as much as 15% of the U.S. population has taken a genetic test.

The tests put insurers in a delicate position as they seek a level playing field while also carefully managing ethical and privacy concerns. Genetic testing, however, could allow for better understanding of diseases and how to prevent them.

In "Mapping the Future," *Best's Review* examines the advancing science of genomics. "Looking Within" focuses on the related field of precision medicine and the insights that it brings.

Genetics certainly play an important role in our predisposition to certain types of illnesses, but many are the result of viral or bacterial infections. Antibiotics have saved many lives, but they also have become a victim of their own success. "The Rise of Resistance" focuses on the proliferation of antibiotic-resistant bugs and what that could mean for insurers.

Viruses such as influenza are an ongoing concern and the winter flu season this year was unusually severe. With the return of warm weather, ticks are again making an appearance, bringing with them the risk of Lyme disease. Yellow fever, Zika and Ebola are also making headlines. "Heating Up" takes a look at how insurers are responding.

Warmer temperatures also mean that ocean waters will begin to heat up, which could fuel a new round of hurricanes. Hurricane season officially runs from June 1 through Nov. 30.

To manage catastrophe risk, some small developing countries are banding together to form risk pools. The Caribbean Catastrophe Risk Insurance Facility, the oldest and most active of these pools, last year paid out $61 million due to the back-to-back hurricanes. "Preparing for the Day After" takes a closer look at sovereign risk pools.

Shortly after the start of hurricane season comes Insurance Awareness Day on June 28. This day was created as a day for individuals and organizations to review their insurance coverage.

The June issue of *Best's Review* includes expanded coverage of industry trade shows scheduled for the second half of the year. In "The Grounded Visionary" we preview some of the more notable trade shows, including InsureTech Connect in Las Vegas in October.

Patricia Vowinkel
Executive Editor
patricia.vowinkel@ambest.com

The Question:

Have you taken a genetic test? Would the results influence your decision to buy insurance?

Email your answer to *bestreviewcomment@ambest.com*.

Reader responses will be published in a future issue.

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Cover design by Andrew Crespo


ey.com/fstransformation
EY
Building a better working world
How do you profit from a digital shift?
Navigate the Transformative Age with digital solutions for financial services.
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The better the question. The better the answer. The better the world works.

A.M. BestWebinars

Coming Soon

How Insurers Are Using Hyper-Accurate Location Data to Transform Underwriting

A panel of insurance and data experts will examine how insurers are leveraging location and data analytics to better understand property risks and exposures. These experts will share real-world examples of how using precise and accurate data can help identify and remedy inaccuracies that can significantly impact a company's bottom line. Sponsored by Pitney-Bowes.

Tuesday, June 19, 2 p.m. Eastern Time

For details or to register for webinars, go to *http://www.ambest.com/conferences/webinars.asp*

Recent Webinars

Managing Agents Effectively In a Data-Driven World

A look at ways that carriers are using data and analytics to drive profitable production and create stronger relationships with their agents. Sponsored by Optymyze. (May 10, 2018)

How to Know Your Customer In This Post-Breach Environment

Insurance companies needing to take steps to properly identify their customers is not new. But following large-scale breaches over the past year where Social Security numbers and other sensitive personal information was exposed, how can a company still be sure that someone is who they say they are? A panel of industry leaders discusses KYC practices as they relate directly to the insurance industry. Sponsored by Neustar. (May 10, 2018)

State of the Medical Professional Liability Market

A.M. Best senior analytic personnel and insurance industry leaders review the state of the U.S. medical professional liability insurance sector. The discussion follows the publication of A.M. Best's annual special report on the state of the medical professional liability market. (May 8, 2018)

Rating Mortgage-Related ILS Transactions

A.M. Best analysts examine how they evaluate mortgage-related insurance-linked securities transactions which are relatively new to the market. (May 7, 2018)

The Evolving Partnership Of Data Analytics and Claims

A panel of insurance, legal and claims experts discusses the increasingly data-driven nature of claims management. (May 3, 2018)

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Mutual Insurers Form Tight Bonds With Reinsurers**

Insurers and reinsurers at the Meeting of Reinsurance Officials in Montreal said mutual insurers lack stock companies' range of access to capital sources, which is why many look to reinsurers for help with capital and expertise. (April 30, 2018)

The Institutes' Elliott: Preventive Analytics Changing Risk Environment

Michael Elliott, senior director of knowledge resources, The Institutes, said sensors and other smart devices help with risk monitoring and enable new types of professionals to become key players in risk management. Elliott spoke with A.M. BestTV at the Risk and Insurance Management Society's annual conference in San Antonio. (April 17, 2018)

RIMS President: 21st Century Risk Management Has Changed

RIMS President Robert Cartwright Jr. said risk managers are concerned about issues well beyond buying insurance, and are increasingly involving people from information technology, human resources, legal, safety and other areas of risk exposure. Cartwright spoke with A.M. BestTV at the Risk and Insurance Management Society's annual conference in San Antonio. (April 15, 2018)

III's Kevelighan: Insurance's Path Is Moving It Ahead of the Risk

Sean Kevelighan, CEO, Insurance Information Institute, said developments in the insurance industry show a greater emphasis on helping insureds mitigate risk and develop resilience. Kevelighan spoke with A.M. BestTV at Philly I-Day. (April 15, 2018)

A.M. Best's Siddiqui: Pricing, Oil Issues Drive Negative Outlook for GCC Sector

Salman Siddiqui, associate director of analytics, A.M. Best, said a relatively large number of insurers are chasing a limited amount of business in some nations in the Gulf Cooperation Council region, lowering prices and hurting margins. (April 4, 2018)

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Active Shooter Panel: Coverage for On-Site Violence Is 'Business as Unusual'

Demand for coverage against the costs of active shooter and similar incidents is rising. Insurers are developing a wide array of coverages against losses from crises in schools, workplaces and elsewhere.

Employment Liability Panel: It's Not Having a Policy That Matters, It's How You Respond

Experts on employment practices liability said the spate of high-profile sexual harassment allegations is driving interest among organizations seeking to protect themselves against claims, which have been rising in severity.

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The Insurance Information Source

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Department

Executive Changes

Distribution

• **Lockton Cos.** has named **Said Taiym** executive vice president and chief digital officer, with a mandate to focus on digital innovation and new technologies. The position Taiym will take is a newly created global role.

Taiym will report to **Ron Lockton**, president and chief executive officer.

Taiym's career in the insurance industry included XL Group and Zurich North America, and most recently, he was the senior vice president and chief information officer for AF Group.

Said Taiym

• **Beecher Carlson Insurance Services LLC** has appointed **Joseph Siech** as chief executive officer and **B. Scott Davis** as its first chief operating officer following the departure of CEO **Steve Denton**.

Denton was named president of EPIC Holdings Inc., effective May 1. Denton's position there is newly created.

Davis continues as Beecher Carlson's property/casualty president. Earlier, he was a senior vice president at Willis of Tennessee and president and CEO of Lockton-Tennessee.

Siech joined the Brown & Brown subsidiary in 2005. Most recently he served as national sales leader.

Joseph Siech

B. Scott Davis

Property/Casualty

• **Wawanesa Mutual Insurance Co.** has appointed **Carol Jardine** as the first president of its Canadian property/casualty operation. She had been senior vice president and chief strategy officer since joining the carrier in 2016. It's a newly created position at the company.

She previously held executive roles at Canadian Northern Shield, TD Insurance, CUMIS Group and RSA Insurance.

Carol Jardine

• **W.R. Berkley Corp.** has appointed **James Gilbert** as an executive vice president and named **Brian Douglas** as his successor as president of **BerkleyNet Underwriters**.

Gilbert has nearly 30 years of property/casualty experience. He joined BerkleyNet when it was formed in 2006, serving as senior vice president of actuarial and operations until 2014, when he was appointed BerkleyNet president.

Douglas has more than 20 years of experience in workers' compensation insurance. He also joined BerkleyNet when it formed, serving previously as the unit's vice president of marketing and business development.

• Commercial insurer **CNA** named **Mark James**, a former officer from **American International Group**, to be senior vice president, global reinsurance.

James will be responsible for CNA's reinsurance strategies and purchasing around the globe. He will report to **Doug Worman**, executive vice president and chief underwriting officer.

IRI CEO Cathy Weatherford to Retire At Year's End, Search for Successor Underway

Longtime Insured Retirement Institute President and Chief Executive Officer Cathy Weatherford will retire at the end of the year, the IRI said in a statement. The IRI board of directors has launched a search for her successor.

"Over the course of my career, my objective has always been to implement forward-thinking policies that benefit the constituents, consumers, employees, members, men and women whom I have served," Weatherford said. "2018 will be my 10th year at IRI and I am looking forward to setting IRI on the track for another 25 years of being the first-call association for the retirement income industry," she said in a statement.

Cathy Weatherford

Formerly the Oklahoma insurance commissioner from 1991 to 1995, Weatherford was named president and CEO of the IRI in 2008. As part of the IRI succession plan, Weatherford will leave the association on Dec. 31. The IRI search committee intends to identify potential prospects and interview candidates through the spring, reach a conclusion on finalists by summer and have the successful candidate employed this fall to work on a leadership transition with Weatherford, the statement said.

—Frank Klimko

With more than 15 years of experience in reinsurance, James most recently held the position of deputy chief ceded reinsurance officer for AIG. He also spent 14 years at Chubb, serving as senior vice president, worldwide reinsurance and risk manager.

The company also announced it had made **Doug Kortfelt** senior vice president and chief procurement officer.

Kortfelt brings 25 years of vendor management and procurement experience in various industries, most recently as chief procurement officer and global head of accounting operations at Nasdaq.

Earlier, he was at Barclays, Citigroup, The Walt Disney Co. and IBM.

• **Heritage Insurance Holdings** has appointed **Tim Johns** as president and chief executive officer of subsidiary Zephyr Insurance Co.

Johns succeeds retiring **Richard Toyama**.

Johns previously was chief consumer officer at the Hawaii Medical Service Association.

• **Chubb** has appointed North America Major Accounts Division President **Christopher Maleno** as division president of North America field operations. He will be succeeded by **Matthew Merna**, who most recently served as chief operating officer of the major accounts division.

Christopher Maleno

The appointments take effect July 2. Maleno will be responsible for Chubb's 48 branch and regional offices in the United States and Canada in addition to managing services for agents and brokers. He is also a Chubb group senior vice president.

Prior to Ace's acquisition of Chubb, Maleno was Ace USA division president. He started his insurance career in 1988 at Chubb Corp. and joined Ace in 2007.

Merna joined Ace in 2000 and held senior leadership positions, including serving as risk management president. Early in his career, he held management roles in public accounting and at American International Group.

Both men will report to **John Lupica**, vice chairman of Chubb Group and president of North America major accounts and specialty insurance.

Maleno succeeds **Gerard Butler**, who will retire after more than 36 years in the industry, including 27 at Chubb. He will continue to work with Maleno as an active adviser.

Reinsurance/Capital Markets

• **Axis Re** has appointed **Megan Thomas** as chief underwriting officer. Thomas will be responsible for product and portfolio management within the reinsurance affiliate of Axis Capital Holdings Ltd.

Before joining Axis, Thomas was with American International Group for 12 years. Most recently, she was global CUO of liability lines in New York. Before that, she held the dual position of CUO and head of AIG Cat Excess Liability, based in Bermuda.

She will be based in New York and report to **Steve Arora**, chief executive officer of Axis Re.

• **Aspen Insurance Holdings Ltd.** announced **Brian Boornazian** was to retire as chairman of its reinsurance segment, Aspen Re, and as chief executive officer of Aspen Re, Americas, at the end of April. He was with Aspen for 14 years.

Boornazian's roles will not be replaced. Boornazian was appointed chairman of Aspen Re and CEO Aspen Re, North America, in August 2012.

He was the appointed CEO of Aspen Re, Americas, in May 2017, in addition to his role as chairman.

The reinsurance segment will continue to be led by **Thomas Lillelund**, CEO of Aspen Re, and **Emil Issavi** will continue to lead Aspen's reinsurance business in the Americas as president and chief underwriting officer of Aspen Re.

Life/Health

• **John Hancock** has named **Patrick Murphy** chief executive officer of John Hancock retirement plan services. He succeeds **Peter Gordon**, who is retiring this year.

Patrick Murphy

Murphy, who most recently served as president of John Hancock RPS, will lead the company's U.S. retirement record keeping business and further accelerate growth.

Murphy was CEO of New York Life's retirement plan services when John Hancock acquired it in 2015.

Murphy has spent his career in retirement plan services. He spent 11 years at New York Life in various roles.

Before that, he worked at American Express's retirement plan services, Transamerica and Putnam Investments.

• **Massachusetts Mutual Life Insurance Co.** has hired **Jesus "Laz" Montano**, a long-time information technology executive, to be head of enterprise information risk management and chief information security officer.

Jesus "Laz" Montano

Montano spent the past four years as chief information security officer for Voya Financial.

Before Voya, he held leadership positions in technology security at OpenSky, MetLife, Travelers Cos. and Lucent Technologies.

Montano reports to **Mark Roellig**, the company's chief technology and administration officer. BR

Insurance Marketing

Singing Their Praises

The Academy and Grammy awards-winning actress and singer Jennifer Hudson is once again center stage in a new **AMERICAN FAMILY INSURANCE** brand ad. The ad captures a recent visit by DeShaun Blake, a member of the Morehouse College Glee Club, and six Chicago-area agents to a music class at Kenwood Academy in Chicago.

While filming the ad, Hudson and Blake discovered they had something in common—their former music teacher, Richard Nunley, a teacher at Kenwood Academy. American Family believes Nunley embodies the idea that any dream is possible with the right support. Hudson, Blake and the agents presented Nunley and his students with new equipment and inspiration, which became the basis for the ad.

Research shows that having a favorably viewed dream champion, what the company calls those who inspire dreams like Jennifer Hudson, deepens a company's connection with consumers and increases their ability to more quickly remember a company's brand and products, said Dwayne Maddox, American Family advertising director. "We also wanted to continue with the music theme and tested the idea with consumers before the ad was filmed.

"We learned we could optimize our creative ideas and media mix by leveraging the strong performance of advertising featuring Jennifer," he said. "People were able to remember early on who the advertising was for compared to other ideas tested. That allows us to generate better brand recall and overall performance for our advertising investment."

Not That Kind

The **AFLAC** Duck is at it again. This time in a new ad that uses humor to show how the insurer is there when consumers need it most, and even when they don't.

In the spot, "Not That Kind," the Aflac Duck suddenly appears when he believes policyholders need help. The spot opens with a father giving a pep talk to his daughter before her dance recital, encouraging her to "break a leg." The Aflac Duck appears with cash to help cover costs resulting from a broken leg, to which the father responds, "Not that kind of break." The commercial concludes with the father suffering a real broken leg and talking about how Aflac paid cash fast after his accident to help cover his car and mortgage payments while he was out of work.

The commercial demonstrates how Aflac, through initiatives like the One Day Pay program and overall focus on customer service, is always ready to help, said Catherine Hernandez-Blades, Aflac's senior vice president and chief brand and communications officer. One Day Pay ensures eligible claims get processed and approved the same day they are submitted.

Running Ahead

ALLSTATE INSURANCE CO. has entered into a three-year title sponsorship with endurance race producer RAM Racing through the creation of the newly named "Allstate Hot Chocolate 15k/5k."

The partnership marks the longest sustained commitment by Allstate in the endurance world and the first series title sponsorship for RAM Racing.

The Hot Chocolate race series began with a single race in Chicago in 2007. RAM expanded the Hot Chocolate concept to four cities in 2010 and has since continued adding races to keep up with popular demand. More than one million runners have participated in Hot Chocolate races since its inception.

Allstate first signed on for a limited sponsorship with the Hot Chocolate series in 2015.

As part of the new deal, Allstate has created a new race logo that is adorning digital assets, race signage and the Hot Chocolate goodie bag swag for participants.

This year's race season includes events in 17 U.S. cities and in China, Australia and Mexico.

Lori Chordas is a senior associate editor. She can be reached at *lori.chordas@ambest.com.*


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Best's Calendar

A.M. Best to Host 2018 Reinsurance Market Briefing In Zurich; Analysts to Present Industry Insights

June 3 – 5: AMICE Congress 2018, Association of Mutual Insurers and Insurance Cooperatives in Europe, Stockholm, Sweden.

June 3 – 5: 38th Annual Caribbean Insurance Conference, Insurance Association of the Caribbean (IAC), Montego Bay, Jamaica.

June 3 – 6: IASA Educational Conference and Business Show, Insurance Accounting & Systems Association, Nashville, Tenn.

June 4 – 5: Annual CARe Seminar on Reinsurance, Casualty Actuarial Society (CAS), Brooklyn, N.Y.

June 5: 15th Cologne Reinsurance Symposium, Cologne Research Centre for Reinsurance, Cologne, Germany.

June 5 – 6: JMM, June Member Meeting, Micro Insurance Network (MIN), Luxembourg, Switzerland.

June 6: 2018 Reinsurance Market Briefing, A.M. Best, Zurich, Switzerland.

June 7: IICF Women in Insurance Conference Series, Insurance Industry Charitable Foundation (IICF), New York.

June 7 – 9: 77th Annual IAIP Convention, International Association of Insurance Professionals, St. Louis, Mo.

June 9 – 13: SLA Annual Conference, Special Libraries Association, Baltimore.

June 10 – 13: Bermuda Captive Conference, Bermuda Captive Owners Association (BCOA), Southampton, Bermuda.

June 10 – 13: WCCP Annual Claims Management & Leadership Conference, Workers' Compensation Claims Professionals, Bonita Springs, Fla.

June 11 – 13: AIRMIC 2018: The Future Is Now, Association of Insurance and Risk Managers, Liverpool, England.

June 11 – 13: RIMS Risk Management Academy at Lloyd's, Risk and Insurance Management Society and Lloyd's, London.

June 11 – 14: Miami Latin American Claims (Re) Insurance Forum, Quintana, Lopez, Donoghue & Gonzalez LLP & Kennedys Law LLP, Miami.

June 11 – 15: 81st Annual NAIIA National Conference, National Association of Independent Insurance Adjusters, Incline Village, Nev.

June 12: AIF Insurance Investors' Forum, AIF Global, New York.

June 18 – 22: Insurance Summit, NAIC and National Insurance Producer Registry, Kansas City, Mo.

June 19 – 20: TCIA 8th Annual Conference, Tennessee Captive Insurance Association, Nashville, Tenn.

June 20 – 22: AHIP Annual Institute & Expo, America's Health Insurance Plans, San Diego.

June 23 – 26: NAHU Annual Convention, National Association of Health Underwriters, Kansas City, Mo.

June 24 – 27: NAMIC Management Conference, National Association of Mutual Insurance Companies, Coronado, Calif.

June 24 – 26: IMCA Annual Conference & Showcase Gala, Insurance Marketing & Communications Association, Atlanta.

June 24 – 26: GAIF 32nd General Conference, General Arab Insurance Federation, Yasmine Hammamet, Tunisia.

June 25 – 27: ACE, America's Claims Event, Austin, Texas.

July 8 – 11: Global Insurance Forum: The Innovation Transformation, International Insurance Society, Berlin.

For a full list of conferences and events, visit *www.ambest.com/conferences/index.html*

Attending Exhibiting Speaking Sponsoring BestTV Video

June: Awareness of the Role of Insurance
Insurance Awareness Day is June 28. June is also the month traditionally considered the start of the Atlantic hurricane season, which is a reminder of the role insurance plays in protecting homes and lifestyles.

A Global Conversation

RIMS Roundup

Experts attending the Risk and Insurance Management Society's annual conference in San Antonio discuss hot topics including regulation, opioids, cyber liability and blockchain with A.M.BestTV.

"The General Data Protection Regulation really represents a very, very new threat for our insureds because it includes with it not just the necessity of notifying a client. It includes the right of a client to be forgotten, which means you've got to map all of your data and know within your systems where that data resides and have them on systems that it can actually be in some way modified or deleted.

That actually presents, especially for insureds with legacy operations, a pretty significant challenge."

Emy Donavan
Global Head of Cyber
Allianz

"What we are seeing [concerning opioids] are lawsuits filed by primarily governmental entities, so states, cities, and counties, as well as Indian tribes and others, against companies at all points of the distribution chain. Everybody from manufacturers to distributors and pharmacies.

There's over 500 lawsuits. A number of those lawsuits, a large number, have been consolidated in a federal court in Ohio in a multidistrict litigation.

Department

The judge in that case is pushing to try to bring the parties together in a settlement.

However, there's a number of obstacles to settlement. Just the sheer number of defendants that are parties to that case, as well as the varying roles that they play. They're all going to look and have different ideas about what their liability, if any, is.

In addition, there are lawsuits that are remaining in state court, subject to proceedings in states across the United States. In some of those, there are what we would call dispositive motions, summary judgment motions that are pending, that will give us an idea of whether the cases have any kind of legal merit."

John Denton
Coverage and Claims Leader
Marsh Casualty

"Job seekers are in an extremely powerful position today because of social media. Their resume can come alive with their Twitter accounts, their LinkedIn accounts, Facebook, Instagram. Especially millennials, the way they are able to connect to a hiring manager.

For an example, if you're a claims executive and you want to get a job in Atlanta at whatever company, you can go into Twitter, find that claims manager or the hiring manager, and see if they're on Twitter. If they are, you can direct message them and let them know that you just applied to their job at their company.

It's a way around the entire system. But when they see that on their Twitter feed, if they're Twitter users or LinkedIn or Facebook or Instagram, they'll immediately click on your Twitter page. Your Twitter page becomes your resume then. Then, that can direct it back to your LinkedIn page. But it puts you on the top of the stack.

That's extremely important for people to recognize, that if they really want a job, that applicant tracking system, that's a mandatory step. But it's not going to get you the job most of the time, because you're not going to get recognized as quickly as you should be recognized. You can go around that and put your resume right on the top."

Roger Lear
Partner
Greatinsurancejobs.com

"Along with outpatient, hospice, and virtual health care through the internet, all are evolving exposures that our clients are looking to us to help solve.

That is an opportunity for us and one that we continue to pursue, as well as other covers, like environmental cover for hospitals and medical facilities. The last area for health care that I would bring up is cyber liability because of the amount and the confidentiality of certain information that clients have. That's one area where the market with its cyber liability product is in great demand in the health care area."

Shaun Kelly
President
Ironshore, U.S. Operations

"It was cloud technology a couple of years ago, and it was the internet not so long ago. Today, it's blockchain. Blockchain's important. It's a fundamental new technology for us.

A little bit scary to a lot of people, because we're trying to figure it out. A lot of consortiums, a lot of people, working on it right now in the industry and outside of the industry.

For us, I think we should think it's going to enable the transactions that we do every day—proof of claims, proof of coverage, reporting of losses. It'll enable them to do that more efficiently."

David North
President and CEO
Sedgwick

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Sharing Ideas

In April, Facebook CEO Mark Zuckerberg testified before the U.S. Congress about the social network's privacy practices concerning the alleged data breach by Cambridge Analytica. As insurance professionals, we recognize this was not a true data breach in the sense that no one hacked Facebook's servers and subsequently stole individual information. The social network's users opted to share information and their Facebook friends' information. It was evident through the course of questioning that this technicality, however, does not relieve the anxiety or unease that many feel about the culture of information sharing. There is certainly a discussion to be had as to whether or not it is appropriate for an individual to be able to approve the sharing of someone else's information. And Facebook has already changed its permission structure which indicates to me that the company did have that conversation internally and landed on the obvious answer that it is inappropriate.

Carly Burnham

If there is a shift in privacy expectations, **how might that be useful to insurers?**

It is also important to discuss how the nature of privacy is changing and how valuable an individual's personal information is financially. This is relevant to us as insurance professionals not only in understanding where businesses might be exposed to breaches or misuses of data, but also in understanding if there is a shift in privacy expectations, how might that be useful to insurers?

Historically, we have thought about Personally Identifiable Information (PII) as ID numbers, account numbers, health/medical information, etc. The value of this type of information is easy to recognize and even relatively simple to quantify financially. On the other hand, consider all of the information that we are all voluntarily sharing. Each of us have profiles that tell a story about who we are. When we wrote those stories, we probably intended them for the people we consider friends or at least acquaintances.

Those of us who grew up in an era before the sites were fully integrated in our lives may be questioning our comfort with sharing our posts now that social media sites have allowed our stories to be shared externally. Digital migrants, typically understood to be Gen X and baby boomers, seem to be even more uneasy than semi-digital native millennials, who are more uneasy still than true digital native Gen Zers. Growing up concurrently with Facebook, I was shocked to hear, during Zuckerberg's testimony, members of Congress ask things like "Can you delete your profile?" "How do you make money?"

As I listened, I had two thoughts:

This is an example of why there must be diversity of experience in decision-makers within our companies. Our world is too complex for one type of individual to have a full understanding of everything that is happening, and the pace of change has never been faster. We must depend on our colleagues when their knowledge set is different from ours.

My friends and I understand that Facebook uses our data, so do many other companies, like Apple, 23andMe, Google, etc. While every implication of this use may not be understood (and could likely stand to be more closely examined), we are each making the decision that the rewards or benefits we get through these services are enough to keep us sharing our data through them and with them.

Insurance companies also thrive on the use of data gleaned from questioning customers. Insureds understand that the benefit of sharing the data (through an application) is having coverage in the event of a loss, and insurance companies use the information, that is often detailed, to understand exposure to risk, create terms of insuring and rate appropriately. As we move away from applications that are pages long and instead get data from external sources, it is imperative that we make our products' values more explicit and provide services that improve our insureds' day-to-day lives through use and analysis of their data, just as these tech giants have done. BR

Carly Burnham, CPCU, MBA, has been in the insurance industry since 2004. She blogs at *InsNerds.com* and can be reached at *bestreviewcomment@ambest.com*.

Spotlight on Insurance-Linked Securities

ILS Market Non-Life Capacity Tops $3 Billion in First Quarter

by Ernesto Calucag

> "Even more importantly, we will continue to see a trend toward true syndication, reducing the power of large leading markets. All this will put the reinsurance market's traditional pricing cycle on life support."
>
> **William Dubinsky**
> Willis Towers Watson

The insurance-linked securities market is off to a good start in 2018, with $3.1 billion of underwritten, widely distributed nonlife ILS capacity in the first quarter of this year, according to the ILS Market update by Willis Towers Watson. The report revealed the ILS capacity was issued through 12 catastrophe bonds, compared with US$1.7 billion through five bonds in the same quarter of 2017.

Willis Towers Watson said it marks the largest-ever first-quarter issuance in the history of the nonlife ILS market, and the third-highest quarter ever.

This brings the total outstanding ILS nonlife capacity to US$26.6 billion as of the first quarter this year, up US$1.1 billion to a record high, the report noted.

Willis Towers Watson said the first-quarter transactions were diversified, including bonds for first-time sponsors Chile, Colombia, and Peru, and by repeat Japanese cedants Zenkyoren, Mitsui Sumitomo Insurance and Tokio Marine & Nichido Fire.

William Dubinsky, managing director and head of ILS at Willis Towers Watson, said in a statement the expectation is for more robust ILS transactions going forward, particularly in the second quarter.

"We expect the current trends in ILS growth to continue. Without a true surprise loss, like an ice-storm in Miami, end-investors will continue to allocate capacity to ILS," he said.

Dubinsky said further yield increases in government bonds will be neutral in effect, or maybe even slightly positive for the ILS market.

"Even more importantly, we will continue to see a trend toward true syndication, reducing the power of large leading markets. All this will put the reinsurance market's traditional pricing cycle on life support," he said.

Market experts said in January they expect more ILS will be issued in Asia, driven by recent Singapore government's move to fund 100% of the upfront costs incurred in issuing ILS bonds covering all forms of risks beyond just natural catastrophe risks. BR

Ernesto Calucag is Hong Kong news editor. He can be reached at *ernesto.calucag@ambest.com*.

Regulatory Update

California Wildfires: California's Senate Insurance Committee passed legislation that would require insurers to combine various coverage limits within their homeowner policies to pay any covered losses and to cover 80% of the limit of a policyholder's personal property coverage without requiring a written inventory.

Senate Bill 894 and 897 were issued by Democrat lawmakers as part of a legislative package designed to address policyholders' difficulties after the wildfires that ravaged California last year. Insurance Commissioner Dave Jones said the fires destroyed 36,000 structures and resulted in nearly $13 billion in damages.

Sen. Bill Dodd offered SB 894, which he said would allow policyholders to combine homeowners policy coverage limits to pay covered losses after major disasters. Also, he said the bill would guarantee up to three years of coverage for living expenses and provide homeowners with policy renewal for up to two years following a disaster.

Cannabis Coverage: The California Mutual Insurance Co. has been approved as the California's first insurer to provide lessor's risk coverage for property owners leasing to cannabis-related companies.

Insurance Commissioner Dave Jones said the availability of the insurance should reduce barriers faced by the cannabis industry to obtaining leased space. Jones wants legalized cannabis businesses in the state to have insurance protection and urged other insurers to follow California Mutual's lead. "I want to make sure that when consumers

Spotlight on Terrorism

Despite Quiet Quarter, Pool Re Warns of 'Severe' UK Terror Threat

by Robert O'Connor

Even with an absence of terrorist incidents in Britain so far this year, the United Kingdom continues to face a severe level of threat, according to Pool Reinsurance Co. Ltd., the U.K. government-backed terrorism reinsurer.

"Despite there being no terrorist attacks on the U.K. mainland in Q1/18," the motivation to undertake similar attacks to those seen in 2017 continues, Ed Butler, Pool Re's head of risk analysis, wrote in the second edition of Pool Re's Terrorism Frequency Report. "The threat level has not reduced below severe for nearly four years and is unlikely to reduce in the short term."

The most serious danger, the report warned, involves the potential for "Islamist extremist-inspired attacks" on crowds with the use of vehicles and "bladed weapons."

Butler also noted the enormous attention that has followed the March 4 attack on Sergei Skripal, a former Russian spy, and his daughter in the English city of Salisbury. Both victims survived the attack, which, the British government has said was caused by a nerve agent of a type that is manufactured in Russia. The British government has blamed the Russian government for the attack.

"Despite it not being a terrorist incident," Butler wrote, "Pool Re has closely monitored this incident." The report warned of a significant growth in the threat of terrorism from the extreme right wing and suggested targeted attacks from this direction could cost lives and cause property damage. There is also the danger overseas groups of military personnel could participate in such attacks.

The report said the United Kingdom was hit by two right-wing extremist attacks over a two-year period. One was the murder of Jo Cox, a Labor Party member of Parliament in June 2016. The other involved a fatal attack on a London mosque. Globally, the report said, the first quarter of 2018 saw 371 significant terrorist incidents in 34 countries. These attacks caused at least 1,623 deaths and 2,446 injuries. The deadliest attack occurred in the Afghan capital of Kabul. The largest number of attacks, 139, was in South Asia, followed by 98 in sub-Saharan Africa. Three were in Europe, and 20 were in Latin America and the Caribbean. BR

> "The threat level has not reduced below severe for nearly four years and is unlikely to reduce in the short term."
>
> **Ed Butler**
> Pool Re

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shop in cannabis businesses, when investors and owners invest in cannabis businesses, when vendors sell to cannabis businesses, and when landlords rent to cannabis businesses, there is insurance coverage available to cover everyone from losses," Jones said in a statement.

The California Department of Insurance said lessor's risk coverage provides liability and property insurance for commercial property owners who lease building space to commercial tenants. Activities and businesses addressed by lessor's risk coverage include cannabis labs, product manufacturing, cultivation, and dispensary operations, the CDI said.

Workers' Compensation: The Illinois House of Representatives has passed legislation that would create a state-sponsored workers' compensation insurance company.

House Bill 4595 would create Illinois Employers Mutual Insurance Co., using a $10 million loan from the Illinois Workers' Compensation Commission's operations fund as start-up capital to be repaid within five years. Money to the operations fund is generated by a surcharge on companies operating in the state.

The National Association of Mutual Insurance Companies was among the trade groups who are opposed to the legislation. "The bill is a retread that doesn't bring anything new to the table to solve the problems Illinois' employers are facing in workers' compensation," said Mark Johnston, NAMIC vice president, Midwest Region. He said the bill is thinly capitalized and unnecessary in a state

Department

Spotlight on Managing General Agents

London Group Launches Project To Support MGA Market

by David Pilla

"We want to represent not only the views and insights of the next generation, but also promote ongoing discussion on the future of the sector."

Katherine Snedden
Chrysalis Chair

The Managing General Agents' Association said it launched an entity called Chrysalis in an effort to drive innovation and collaboration in the managing general agency sector.

Chrysalis is "a dedicated community" that will "represent the interests of the next generation of industry professionals" in the MGA field, the MGAA said.

"The goal of Chrysalis is to enable the sector to develop more opportunities and action change through greater collaboration amongst those in the sector," the MGAA said in a statement. "The group will also seek to encourage entrepreneurship through mentoring and provide a platform for individuals to share insight, knowledge and expertise."

The MGAA said a steering group for Chrysalis has been established "to drive its future direction." The steering group includes members from 10 leading MGAs in London and "the regions." The group is chaired by Katherine Snedden, head of compliance at Dual Corporate Risks Ltd.

"Chrysalis will be much more than a networking group for MGAs," said Snedden in a statement. "We want to represent not only the views and insights of the next generation, but also promote ongoing discussion on the future of the sector. We want to ensure that there is a platform for these individuals to speak on the sector's most impactful developments and potential disruptions."

Peter Staddon, managing director of the MGAA, said Chrysalis will support career development and "enable those in the sector to benefit and learn from our combined experience." He added that "Chrysalis has the full support of the MGAA board and is aligned with the association's strategy to support the development of the sector's talent."

Membership for the Chrysalis group will be limited to members of the MGAA.

The MGAA describes itself as a U.K.-based not-for-profit organization dedicated to representing "true MGAs." Formed in 2011, the MGAA said it also aims to provide a better understanding of what MGAs are and the contribution they make to the insurance industry. The MGAA said it has 131 full members representing over £3.9 billion (US$5.44 billion) of underwriting capacity. BR

David Pilla is news editor, BestWeek. He can be reached at *david.pilla@ambest.com*.

Regulatory Update (Continued)

with a workers' comp market as competitive as Illinois.

Workers' Compensation: Florida's Office of Insurance Regulation has approved a 1.8% workers' compensation insurance rate cut that applies to new and renewed policies beginning June 1.

The OIR approved the National Council on Compensation Insurance filing, which was based on the impact of the Federal Tax Cuts and Jobs Act passed by Congress and signed by President Donald Trump in December 2017.

The OIR attributed the rate change to a reduction in the profit and contingency factor from 1.85% to 0.5%. The revised P&C factor reflects portions of the congressional tax bill, including top corporate tax decreases and changes to reserve discount factors, the OIR said in its announcement.

NCCI has demonstrated through its rate filing that this decrease is an actuarially sound response to the savings workers' compensation insurers have realized as a result of recent federal legislation," Insurance Commissioner David Altmaier said in a statement.

South Korea: The South Korean Financial Services Commission has lowered entry requirements for the financial services industry to promote innovation and competition, according to a statement from the regulator.

"It is the first-ever reform plan on entry barriers in 20 years since the current regulatory framework on market entry was established after the Asian financial crisis," said the FSC in a statement.

Disastrous Thinking

It's human nature, not Mother Nature, that's making recovery from catastrophes more expensive.

By
Dianne Batistoni

Last year set a record for the cost of natural disasters, led by three major hurricanes, wildfires in California and extreme flooding in South Asia. The price paid to recover from these disasters has continued to rise exponentially, largely due to human behavior. People are moving to areas that are more populated, building on coastlines and spending more on structures. "If disasters are having a greater impact today, the culprit is not Mother Nature, it's human nature," quipped Bill Patzert, renowned climatologist.

Unfortunately, the money spent on natural disaster recovery far outweighs the amount spent on prevention and preparedness. While conversely, studies have shown that money spent on prevention can bring multiples in savings on damage costs and save lives.

Studies have shown that money spent on prevention can bring multiples in savings on damage costs and save lives.

The examples of our inability to prepare for disaster are many and disturbing. In the years before the devastating Thailand tsunami in 2004, officials had been urged to install warning sirens but opted against it. Every year people opt out of buying flood insurance coverage because they have had years without a flood and no longer see the need. One year before Hurricane Katrina hit New Orleans in 2005, a near miss by Hurricane Ivan, revealed a number of preparedness issues city officials failed to address, that may have saved some of the estimated 1,800 people that died and the $161 billion in damages caused by the storm. Every year people decide to "ride out the storm" rather than heed mandatory evacuation orders, to their own peril, and we continually rebuild in areas that have been repeatedly devastated by storms.

The problem really is human nature. Apparently we are hard-wired and societally conditioned to make bad decisions in the face of high-consequence events like natural disasters. The very skills that equip us to make good decisions in everyday situations, work against us when facing these high-consequence events. Stress, or even thinking about future stressful situations, can cause such fear it leads to a bad decision or lack of decision. We don't like to think about bad things happening and we believe these things only happen to other people. We have a weakness for immediate gratification rather than incurring costs and planning for the long term.

In a recently published book, *The Ostrich Paradox*, the authors explore six different biases that cause us to make some poor decisions, often with disastrous results: myopic thinking, which is focusing on short term horizons when comparing the cost of preparing now with future benefits; amnesia regarding past disasters; optimism about the likelihood that a loss will happen in the future and the it-won't-happen-to-me syndrome; inertia, the maintaining of the status quo when uncertainty exists and not making any decision at all; simplification, the inability to evaluate all the pertinent facts in order to make an informed decision; and herding, the making of choices based on what others do.

Our ability to overcome these decision biases of our human nature will depend on our ability to understand and override them in the short term and to commit to long-term plans to compensate. It is clear that we need to collaborate as a society to change priorities and societal norms, design incentives, and discourage actions that put us in harm's way. BR

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Insight

Risk Adviser

Fraud Protection

Awareness and vigilance are essential tools to battle fraudulent claims.

By
Mark Dion

Your people—the underwriters, claims team and marketing professionals who keep your business moving—are your frontline protection against fraud.

Monster under the bed. Nah, that one doesn't worry me. I know to check under the bed. I'm worried about the monsters in the unexpected places.

The reality is, when it comes to fraud, the only ones we know about are the ones we catch. What really keeps me up at night are the fraudulent claims being processed and paid out. The frauds we don't see are the ones that scare me. So, how do we bring these frauds to light?

Communicate and Educate

Your people—the underwriters, claims team and marketing professionals who keep your business moving—are your frontline protection against fraud. Ideally, underwriters should catch fraud before it is ever on the books, but it cannot be solely up to them to notice and prevent fraud. While underwriters must cover gaps as much as they can, they also need the support of the organization and the tools to communicate with claims and marketing to promote awareness of fraudulent activity.

Communicating and educating your teams are keys to spreading knowledge and sharing approaches that will help solve the problem of fraud.

Never Let Your Guard Down

Fraud can happen anywhere, and it's not always committed by external sources. It can be the cubicle next to you or even the corner office. It's important to promote a culture that rewards honesty and morality—internally and externally.

Beyond your frontline employees, associates and managers companywide should be aware that fraud can be encountered anywhere. To effectively handle reported fraud, senior managers should identify who should be involved in investigations and what type of action the company should take to address and isolate the root cause.

Explore New Avenues

As your company explores technology and innovation to enhance the customer journey, fraudsters will be looking for ways to exploit these systems. While criminals are constantly working to take advantage of insurance companies, experts within the industry are working to identify innovative tools and approaches for preventing, detecting and prosecuting fraud (such as The Association of Fraud Examiners and Transunion.) Be proactive in rooting out gaps and flaws, and do not get caught fighting the last fraud war when the next one is hiding, camouflaged and ready to attack.

Engage With the Industry

Leverage expertise and capabilities of others to prepare for the unexpected. External perspectives from a reinsurer can help mitigate fraud through product design, agent requirements, and underwriting standards. In addition, industry events provide an opportunity for attendees to engage with others and gather perspectives from people across the insurance product and service continuum. I have more than 34 years in the insurance industry. With that amount of time, you might expect that I've seen it all, but the reality is, I have not. Fraudsters are constantly evolving and looking for weak points in the system to infiltrate. Ultimately, it is everyone's job at your company to prevent fraud.

Awareness, communication and prevention need to be ingrained in the company DNA. Make it clear to criminals that fraud is not tolerated within our industry. BR

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Time for Change

The internet of things allows insurers to encourage and establish innovation in new ways.

By
Pat Saporito

The internet of things and data generated by devices and sensors go beyond ensuring more accuracy in initial risk assessment and pricing and extend to risk monitoring or continuous underwriting.

Big data, analytics and advanced technologies are having a profound effect on insurers and their customers.

Insurers are moving from a business model of indemnification or reimbursement to one of loss prevention, wellness management and asset protection. Real-time data and collection and sharing power that comes from the internet of things will help insurers create significant new opportunities in finer product segmentation, along with more specialized pools of risk and predictive modeling to better assess risk, improve loss control and accelerate premium growth. The internet of things includes various types of technology.

Blockchain and distributed ledger technology can help ensure data privacy and security. Machine learning and artificial intelligence applications are fueling algorithms for better pricing and fraud detection, creating intelligent bots for servicing and leveraging text and voice data for analytics.

Big data allows us to create customized products for customers, who want to be treated as individuals with unique needs and behaviors.

The sharing economy is driving a market for on-demand insurance for auto and travel insurance and recreational activities such as scuba diving.

The IoT and data generated by devices and sensors go beyond ensuring more accuracy in initial risk assessment and pricing and extend to risk monitoring or continuous underwriting. Home and building detection devices for water leakage and fire can limit damage and even create a provisional loss notice. Applications such as cold storage monitoring can identify potential maintenance issues that cause food spoilage for restaurants and food distributors or quality issues for hospitals and pharmaceutical manufacturers. Personal health monitors can detect potential health crises and support prescription adherence or health and wellness management. Workers' comp risks can be reduced by having more hazardous activities conducted by robots instead of humans. Drones can conduct or assist claims and loss control activities.

Blockchain and digital ledger technology have many applications beyond digital currencies. As control over personal data becomes more valued, its security and access used for application or claim purposes can be assured. Efficiency and quality of data exchanged among parties in a transaction also increases.

As the industry gains access to more data and analytics, it needs to look at its current business processes and applications. Rewriting or augmenting applications will be necessary. Business processes will need to be re-engineered. Insurers can continue to co-innovate or partner with insurtech firms.

The biggest hurdles won't be technical. They'll be cultural, and obstacles will include change management and overcoming a "not invented here" or "we've always done it this way" mentality.

Insurers will need to encourage and recognize change. They can do that by leveraging organizations such as ACORD and the Blockchain Insurance Industry Initiative consortium to provide education, standards and tools. BR

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Regulatory/Law

LTC Debate

Phantom menace or false concern: Will "phantom premium" affect long-term care insurance economics?

By
Michael D. Rafalko

Most states have yet to adopt those [methodology] models.

It seems almost passé to speak about long-term care insurers experiencing economic challenges. Most national media outlets have already covered that story. And premium rate increases—meaning the process by which long-term care insurers seek permission from state insurance departments to raise premium rates—have lost a modicum of their former shock value. That is not to suggest that rate increases are not a serious and impactful matter for insurers, policyholders and state insurance departments alike; but most long-term care insurers have experienced at least one rate increase in the past decade and the process is no longer a novelty. What remains unclear, however, is how variations in the actuarial methodology used by state insurance departments to determine the frequency and size of rate increases could affect long-term care insurance economics. The so-called "phantom premium" methodology has been one such focal point of recent debate.

The frequency and size of rate increases is tied to the relative strength or weakness of an insurer's loss ratios—meaning the ratio of claims paid by the insurer to the premium earned. Many states prescribe maximum loss ratios above which a premium rate increase must be granted by the state insurance department. Unanimity is, however, lacking as to how loss ratios should be calculated. While most states follow a lifetime loss ratio methodology—meaning an approach that considers the actual premium earned by a company—a minority of states use a future loss ratio, or phantom premium, methodology to evaluate rate increase requests. A phantom premium methodology assumes that, if a rate increase is granted, policyholders have been paying the increased premium rate from the inception of coverage rather than the date, often years later, on which the rate increase is actually implemented.

Insurers are quick to note that, like the apparition from which the methodology's name is derived, the phantom premium tallied by these state departments simply does not exist. As a result, insurers are assumed to have received many millions of dollars in premium they never actually received. This, they contend, gives the false impression that their loss ratios are stronger than they really are, which some insurance departments consider a justification to approve rate increases smaller than would be supported by a lifetime loss ratio methodology and far smaller than actually needed.

Insurance departments that favor the approach, by contrast, appear to embrace the notion that there is more than one way to skin a cat—meaning the lifetime loss ratio methodology favored by insurers is not the only appropriate way to calculate loss ratios. Moreover, these states appear to believe that the phantom premium methodology is the best way to ensure that insurers are not using present rate increases to recoup past losses—a practice, they would contend, that hurts policyholders.

It is premature to draw conclusions regarding the impact of the phantom premium methodology. As discussed, the methodology is confined to a minority of states and is presently the subject of at least one noteworthy administrative challenge. Although the most recent iteration of the NAIC models appears to favor the lifetime loss ratio methodology over a phantom premium approach, most states have yet to adopt those models. And, at bottom, state departments typically have broad latitude to regulate as they deem appropriate. So, for now, the debate continues. BR

Best's Review contributor **Michael D. Rafalko** is an authority on long-term care insurance issues and chair of Cozen O'Connor's long-term care insurance practice. He can be reached at *mrafalko@cozen.com*.

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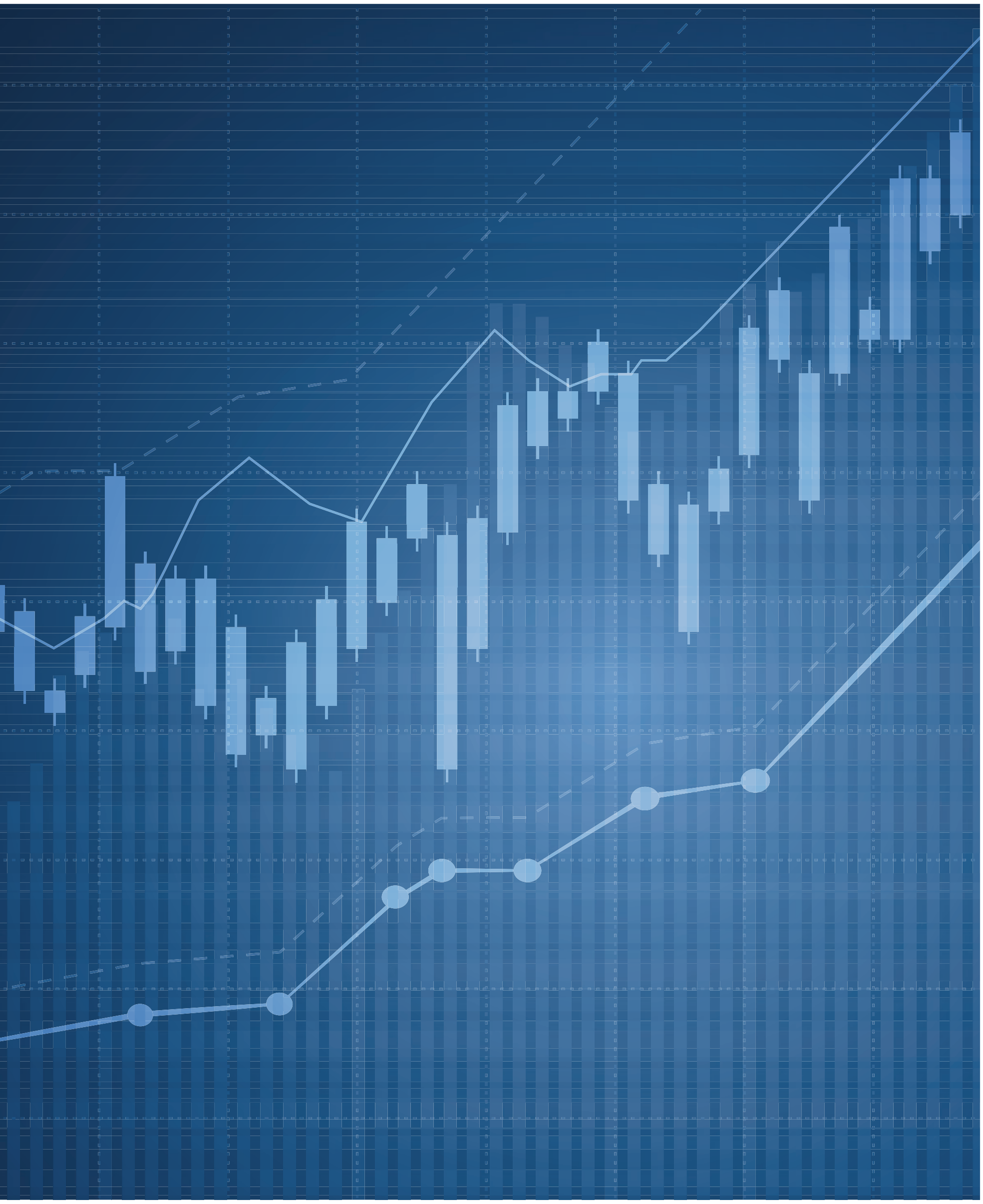
ISSUES & ANSWERS: SPECIALIZED INVESTMENTS

Asset managers discuss how insurers can better use the range of services and products that are remaking the world of insurance asset management.



Interviewed Inside:

John Simone
Voya Investment Management

Emeka Onukwugha
Barings

View past Issues & Answers sections at
www.bestreview.com/issuesanswersarchive.asp

Boring Is the New Black

John Simone, managing director and head of insurance solutions for Voya Investment Management, said insurance companies should not move too far outside of their risk parameters. "Look within your current risk budget and think about where you can make certain tweaks to increase income without taking on too much additional risk." The following are excerpts of an interview.

VOYA INVESTMENT MANAGEMENT

- 40-year history of investment management.
- $213 billion in assets under management.
- Custom solutions provider to insurance companies.

"We have an adage with a lot of our insurance clients that boring is the new black, meaning that if you have a risk budget, just dialing up risk may not be the best path to go."

John Simone
Managing Director and Head of Insurance Solutions
Voya Investment Management

Are insurers open to nontraditional asset classes than had previously been the case?

Absolutely. I think the many years that we've had of low rates have caused a lot of insurance companies to look outside of the typical purview of where they've invested historically in terms of public fixed income. They're looking at private assets, and securitized assets more than ever, to increase returns in addition to traditional alternatives, whether that's private equity, real estate or hedge funds.

What should insurers look for in an asset manager?

It's really important to work with somebody that truly understands both the asset and liability sides of the balance sheet. Someone who can also be somewhat understanding of the issues that they're facing from a regulatory perspective, as well as an overall investment perspective. They should also look for a manager who can help create strategies that create the greatest risk-adjusted returns for the portfolio.

What themes are resonating with clients these days?

At Voya, there are four key themes that are resonating.

- Instead of just dialing up risk in terms of allocating to higher risk assets, taking low volatility, lower risk assets and putting on a somewhat small level of leverage onto those assets can be very attractive from a risk-adjusted perspective.
- Private over public is something that we've looked at in terms of where we can get a good amount of income for taking on some level of illiquidity in private assets or creating more diversification by investing in private assets, i.e., private placement, securities or below investment-grade private securities.
- Considering securitized assets to diversify away from traditional long corporates. There are only so many corporate bonds you can buy, and we're looking at ways of increasing overall diversification by looking at very high quality securitized assets like CLOs, CMBS, asset-backed securities that generate attractive returns on a risk-adjusted basis, but provide that needed diversification away from just buying more corporate bonds.
- The final theme is looking for capital efficiency in the portfolio. Our view is that insurance companies should look to maximize the return on capital in their investment portfolios so that they're not taking away capital that can be used to grow their businesses in other ways.

Go to **page 25** of the digital edition at *bestreview.com* to watch an interview with John Simone.

Value in Infrastructure

Emeka Onukwugha, head of Barings' Private Debt Group, said he is seeing plenty of opportunities in the infrastructure debt space, but diversification is key: "Each asset type provides exposure to different risks and revenue counterparties." The following are excerpts from a recent interview with Onukwugha.

BARINGS

- $305 billion global financial services firm.
- Innovative strategies and solutions.
- Expert experience in public-private partnerships.

"Geographic diversification reduces exposure to any particular country's economic cycle, especially for GDP linked infrastructural assets."

Emeka Onukwugha
Head of Private Debt Group
Barings

How can investors achieve true diversification in the infrastructure debt space?

There are two main sources of diversification available in the infrastructure debt space. One is geographic and the other is by sector or asset type. On geographic diversification, investors gain access to different regulatory systems and local economic cycles, as well as more diverse sources of cash flow. For example, regulated assets, such as gas distribution systems or water and sewage systems in different countries, provide different exposures to revenue counterparties. Geographic and sector diversification can reduce correlation among individual investments in a portfolio.

What is your view on taking non-dollar risks in this space?

We believe they are worth considering, especially if you're looking to expand your opportunity set. Infrastructure debt is a global asset class and to access the full array of investment opportunities, investors need to be able to provide funding in local currencies. Different pricing and relative value is available in different local markets. Also, a global approach provides more access to core infrastructure assets given that core infrastructure—roads, ports, airports—in the U.S. is primarily financed through the municipal bond market rather than with private capital.

How can investors seek to minimize construction risks inherent in greenfield deals?

Good question. Greenfield construction projects require the ability to underwrite and mitigate completion and liquidity risks that arise during the construction period. Familiarity with construction security packages, payment and performance bonds, and the use of expert advice from engineers and technical consultants are all ways lenders can mitigate construction risk. Experience in the sector is also key as lenders are putting capital at risk compared to the experts who simply deliver an opinion. There's no substitute for direct underwriting experience on construction projects.

How important are deal origination capabilities in today's environment?

Very important. If you step back and think about what we've seen the past few years, asset valuations and competition to finance them have increased significantly in a market awash with liquidity. It is critical now to be able to access deal flow away from the highly competitive, broadly syndicated market. You can't add alpha through private debt today by simply participating in market transactions given the amount of liquidity that's out there. The ability to originate is very critical if you are an asset manager looking to offer alpha to clients in this space today.

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Age Nearest Birthday	Unisex	Male	Female	Age Nearest Birthday	Unisex	Male	Female
20	0.55	0.62	0.37	60	1.54	1.65	1.40
21	0.52	0.58	0.35	61	1.69	1.79	1.52
22	0.49	0.55	0.35	62	1.82	1.94	1.63
23	0.47	0.51	0.33	63	1.94	2.07	1.76
24	0.43	0.47	0.33	64	2.08	2.20	1.87
25	0.38	0.42	0.31	65	2.27	2.42	2.06
26	0.37	0.40	0.31	66	2.43	2.60	2.20
27	0.36	0.38	0.30	67	2.64	2.80	2.39
28	0.36	0.38	0.30	68	2.90	3.08	2.62
29	0.36	0.38	0.30	69	3.25	3.45	2.94
30	0.35	0.37	0.30	70	3.83	4.10	3.42
31	0.35	0.36	0.30	71	4.40	4.71	3.93
32	0.35	0.36	0.30	72	5.33	5.57	4.41
33	0.36	0.37	0.31	73	6.11	6.46	5.16
34	0.37	0.38	0.32	74	7.06	7.57	6.03
35	0.38	0.40	0.32	75	8.17	8.47	6.08
36	0.39	0.41	0.32	76	8.47	9.08	6.88
37	0.40	0.43	0.35	77	8.83	9.35	7.77
38	0.42	0.45	0.38	78	9.45	9.89	8.41
39	0.45	0.47	0.40	79	10.09	10.59	9.00
40	0.47	0.49	0.40	80	14.03	14.48	12.23
41	0.48	0.51	0.40	81	15.22	15.65	13.54
42	0.50	0.53	0.42	82	16.68	17.11	14.96
43	0.53	0.55	0.46	83	18.63	19.19	16.39
44	0.56	0.58	0.49	84	21.58	22.17	19.24
45	0.60	0.63	0.51	85	25.35	26.11	22.31
46	0.65	0.67	0.56	86	29.98	30.62	26.58
47	0.70	0.72	0.62	87	34.87	35.87	30.85
48	0.75	0.77	0.67	88	41.20	42.18	37.29
49	0.79	0.81	0.70	89	49.25	50.38	44.70
50	0.85	0.87	0.72	90	59.52	62.98	51.95
51	0.91	0.95	0.77	91	80.31	85.02	58.07
52	0.98	1.03	0.81	92	101.10	113.08	64.48
53	1.03	1.06	0.86	93	126.85	141.34	71.41
54	1.06	1.10	0.90	94	136.12	150.46	78.76
55	1.10	1.15	0.93	95	145.95	160.79	86.59
56	1.15	1.21	1.02	96	155.01	170.07	94.76
57	1.24	1.31	1.11	97	164.57	179.88	103.34
58	1.33	1.42	1.21	98	174.70	190.28	112.39
59	1.42	1.51	1.28	99	185.41	201.28	121.90

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GE-135260 (4/18) (Exp. 4/19)

Growing Appetite

Insurers have nearly tripled their collateralized loan obligation holdings since 2012 in the hunt for yield.

by Jeff Roberts

The insurance industry has embraced collateralized loan obligations, thanks to external pressures and the asset-backed security's improved structures.

Insurers have nearly tripled their holdings since 2012, increasing their exposure from $19.4 billion to $57.6 billion in 2016.

Asset managers have turned to CLOs seeking higher returns, portfolio diversification and a minimal increase in risk as traditional asset classes become exhausted in the hunt for yield in the low interest rate environment, explain A.M. Best's Ken Johnson, senior director, and Jason Hopper, associate director, in a recent interview.

New issuance of CLOs in the U.S. soared to a record $37 billion in the first quarter, largely due to unusually high demand from Japanese investors, Bloomberg reported in April. However, the asset class is under pressure and demand may begin to ebb due to prolonged low rates and low spreads.

Johnson and Hopper explain the rise of CLOs, which are largely comprised of senior secured bank notes made mostly to small- and medium-size businesses, in the following interview.

Jeff Roberts is a senior associate editor. He can be reached at *jeff.roberts@ambest.com.*

Key Points

Huge Jump: Insurers nearly tripled their CLO holdings since 2012, increasing their exposure to $57.6 billion in 2016.

Big Benefits: CLOs potentially offer higher returns, portfolio diversification and a minimal increase in risk.

Record Issuance: New issuance of CLOs in the U.S. soared to $37 billion in the first quarter.

Insurers nearly tripled their holdings in collateralized loan obligations from 2012 to 2016. What is fueling the rise?

Johnson: The increase in exposure is driven by

"Given the sustained low rates and relatively low spreads from a benign credit market, the relative attractiveness of the CLO may start to deteriorate a bit somewhat, lessening demand relative to other asset classes."

Ken Johnson
A.M. Best

a few factors, including the persistently low interest rate environment, which is continuing to be an earnings drag on those insurers with more interest-sensitive liabilities. Also, from an overall portfolio standpoint, asset managers are aggressively marketing CLOs from the standpoint of lower historical default experience and good relative performance from a yield standpoint. The overall structure of the CLO has improved, providing more investor-friendly features such as improved subordination protection for the investment grade tranches.

For some, the attractiveness of CLOs as an investment vehicle is that they generally consist of private loans with spreads that are typically wider than corporate bonds of similar quality. This in turn allows the CLOs to offer attractive yields on investment grade tranches, relative to comparable investment grade corporates.

Market volatility has been the rule, not the exception, for months. What makes CLOs better equipped to withstand volatility and risk?

Johnson: CLOs are not immune to market volatility per se. Their advantage, however, is that they are generally floating rate instruments, which therefore provide some protection against rising rates, reducing interest rate risk. The risk performance, as measured by defaults, is somewhat shielded by the fact that these underlying loans are generally secured loans allowing for better recoveries than comparable corporates.

Although the life/annuity segment accounts for more than 80% of industry CLO holdings, the health and property/casualty sectors have increased their allocations as well. What is spurring that growth?

Hopper: CLO investment characteristics present the same positives and negatives for P/C and health insurers as they do for the life/annuity segment. Scale is important to consider here. The health segment has increased their CLO holdings by less than $800 million since 2012. They had roughly $100 million of CLO investments in 2012, and less than $1 billion as of year-end 2016. UnitedHealth Group, Anthem and HCSC [Health Care Service Corp.] account for nearly two-thirds of the health segment's holdings, so ultimately the larger insurers with a larger asset base will drive the trends.

On the P/C side, AIG accounts for roughly 20% of that segment's CLOs, while no other company accounts for more than 5% to 6%. So this is much more diversified with growth driven by many players, as well as AIG's scale.

The first of modern CLOs were issued in the mid-to-late 1990s. How have they evolved since the financial crisis?

Hopper: CLO structures have evolved over time. You have CLO 1.0, which usually refers to pre-2008 issues and includes some high yield bonds, as well as loans. CLO 2.0, which began in 2010 post-crisis, features higher levels of subordination, tighter collateral eligibility requirements and shorter non-call and reinvestment periods, along with other important distinguishing characteristics.

The current vintage, CLO 3.0, further reduced the risk by eliminating high yield bonds and adhering to the Volcker Rule and other new regulations. [The Volcker Rule, part of the Dodd-Frank Wall Street Reform and Consumer Protection Act, bars banks and companies affiliated with an insured depository institution from short-term proprietary trading and limits their dealings with hedge funds and private equity funds.]

"The current vintage, CLO 3.0, further reduced the risk by eliminating high yield bonds and adhering to the Volcker Rule and other new regulations."

Jason Hopper
A.M. Best

Vintages 2.0 and 3.0 represent the largest chunk of the market.

Johnson: In addition, most of the earlier CLOs were considered "balance sheet" CLOs in which banks were basically de-risking the balance sheet of loans they had made. The more recent vintages represent structures put together by asset managers in an attempt to arbitrage the spreads between the cost of originating the loans, and the spreads they need to offer at each tranche with the idea of creating upside by retaining a portion of the equity in the deal.

Will their structures change again since the U.S. Senate began rolling back parts of Dodd-Frank?

Johnson: One of the initial limiting factors was the requirement of the CLO originator to hold a portion of the equity as "skin in the game." However, in practice it turned out to be not such an issue. Rolling back that requirement may add some additional capacity, but not necessarily have a material impact.

Ninety-seven percent of CLOs held by insurers were investment grade as of 2016. But the number of rating units holding below investment grade CLOs nearly doubled between 2012 and 2016. Why the increase and will it continue?

Hopper: Still, only about one-fifth of A.M. Best rating units hold below-investment grade CLOs, not very widespread within the industry. Only four of our rating units have below investment grade—BIG—exposure exceeding 5% of their capital and surplus, with the largest being roughly 10%. We'd also point out that nearly two-thirds of BIG CLOs were rated NAIC-3. The downward shift in credit quality by insurers from NAIC-1 to NAIC-2 is notable, likely for the additional yield, given the 1.8 to 2.1 percentage point difference in yield between the two categories over the past five years. In general, these investments are of higher quality than other types of structured securities. Trends will continue, but we don't think the situation will become any cause for alarm.

Johnson: One thing to remember is that investing in CLOs requires a level of skill that not all insurers possess. Absent a few large players, including some that may originate their own business, most insurers investing in this space will require the use of outside managers. Therefore, cost may come into play when deciding to enter this space as well. Although most insurers have strong credit expertise in their investment shops to cover corporates and private placements, the additional nuances of understanding the syndicated bank loan market require an additional level of expertise, not only for the underlying loan analysis, but for the structure of the CLO as well.

The asset class is under pressure despite an extremely low number of defaults among senior tranches. Will spread compression affect demand or yield?

Johnson: Yes, as many of the underlying individual borrowers have been able to refinance their deals at lower spreads, many purchases of the investment-grade tranches of CLOs have seen their yields come down a bit. Given the sustained low rates and relatively low spreads from a benign credit market, the relative attractiveness of the CLO may start to deteriorate somewhat, lessening demand relative to other asset classes.

For more information, see *Best's Special Report: CLO Momentum Continues With Insurers* at *www.ambest.com.* BR

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Catastrophes

Preparing for THE DAY AFTER

Photo Credit : ASSOCIATED PRESS

Small, vulnerable countries team up to buy insurance against natural disasters that can give them a vital cash injection to jump-start a recovery.

by Martin Wolk

The Catastrophe Special Section is sponsored by Lexington Insurance. Click on the microphone icon to listen to the Lexington podcast or go to *www.ambest.com/ambradio*.

Arlington James barely escaped serious injury when Hurricane Maria roared across the tiny Caribbean island of Dominica last September and a window exploded, sending projectiles of glass across his living room. His apartment was heavily damaged, and he went without running water and electricity for months after the storm, which killed at least 31 people on the island and damaged nearly every road, building and structure. Like many of the island's 74,000 residents, James, a retired forest officer, had no insurance for his losses. But the government did have insurance, and

Martin Wolk is a writer for *Best's Review*. He can be reached at *bestreviewcomment@ambest.com.*

Key Points

Hedging Against Disaster: About 30 mostly small, developing countries are buying disaster insurance through sovereign risk pools, public-private partnerships promoted by the World Bank and other multinational organizations.

A Variety of Perils: Risk pooling facilities offer parametric insurance that pays out automatically on measurable, triggering events including earthquakes, tropical cyclones, flooding, drought and even disease outbreaks.

Battling Climate Change: The G-7 has committed to making disaster insurance available to 400 million of the world's most vulnerable people, partly in response to the threat posed by global warming and rising sea levels.

STORM'S AFTERMATH: The vacation island paradise of Great Harbour, British Virgin Islands was devastated by Hurricane Irma in September 2017. The BVI government said the country suffered an estimated $3 billion in damages from the storm.

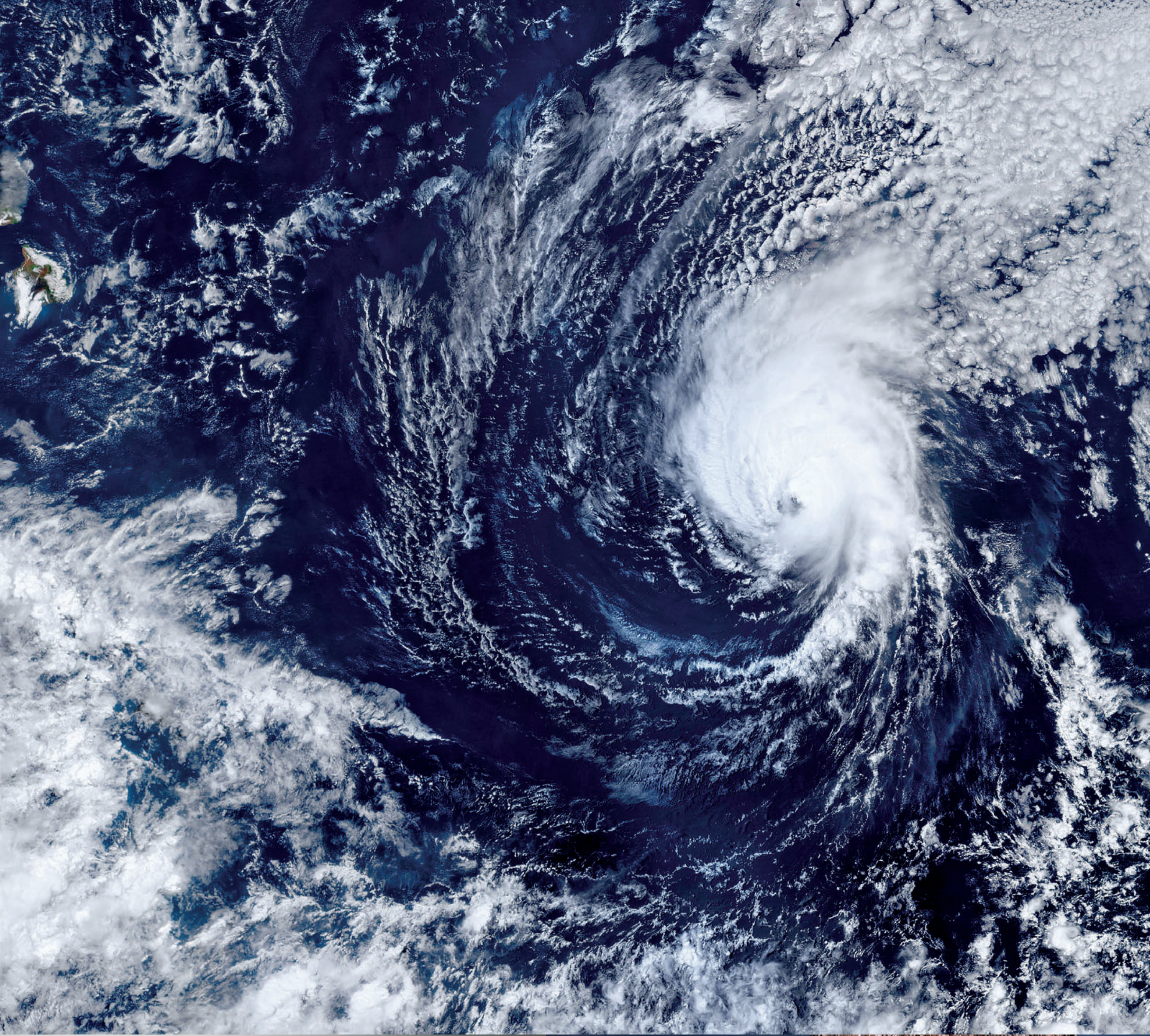
within two weeks of the night when Maria struck, $19.3 million was wired into Dominican accounts, a welcome down payment to begin the long, arduous task of recovery and rebuilding.

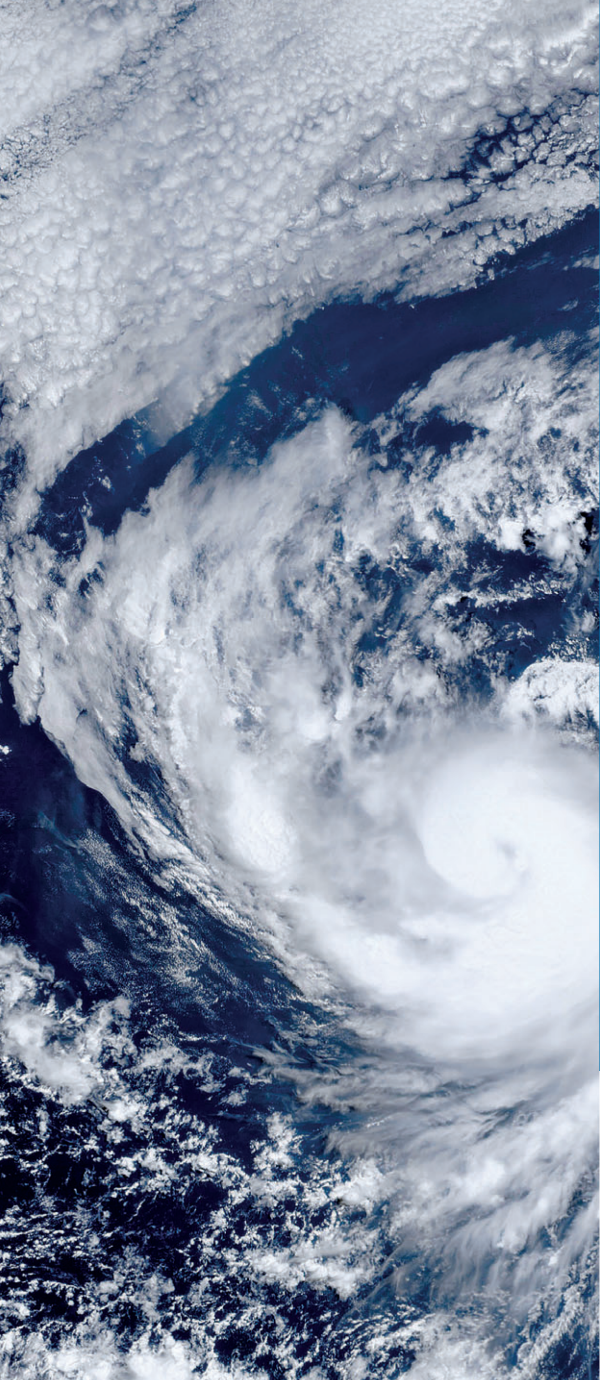
Dominica is one of several dozen small, developing countries that have signed on to buy disaster insurance through sovereign risk pools established over the past decade. As the Caribbean braces for what is predicted to be another active hurricane season, industry executives and World Bank officials say these pools are a promising innovation that could help close the yawning protection gap that leaves developing economies especially susceptible to natural disasters. Climate change and human population growth have put hundreds of millions of the world's most vulnerable people in harm's way, and sovereign risk pools are one tool that can help in the immediate aftermath of disaster—and potentially lay the groundwork for developing more robust and resilient economies.

The Caribbean Catastrophe Risk Insurance Facility, or CCRIF SPC is the oldest and most active of these pools, providing parametric insurance to 17 member nations in the Caribbean and Central America, with more countries expected to join this year. Unlike traditional property insurance, parametric or index-based coverage is based on risk modeling and pays out fixed amounts depending on measurable, triggering events such as tropical cyclones, earthquakes, droughts and flooding. The solution is well-suited for the many regions of the world where the insurance industry has a limited ability to operate.

"These countries usually do not have a solid insurance infrastructure, so they usually have weak legal environments, which makes it extremely difficult for private-sector insurance companies to develop and operate their business," said Ernst Rauch, head of climate and public-sector business development at Munich Re. "This is the only way to make catastrophe insurance available."

(Continued on page 38)





"We're really designed to help meet their short-term liquidity needs, to keep the government operating and to provide funds for services and for costs they incur until they have the opportunity to get funding elsewhere."

Milo Pearson
Caribbean Catastrophe Risk Insurance Facility

(Continued from page 35)

CCRIF was the brainchild of World Bank economists and insurance experts who responded to a call for help from the Caribbean Community, or CARICOM, after the devastation of Hurricane Ivan in 2004. The facility launched in 2007 with initial funding from donor countries including Britain, Japan and Canada. It made its first payouts that same year, a total of about $1 million to the governments of Dominica and St. Lucia after a magnitude 7.4 earthquake. The facility made no payments at all from 2011 through 2013 as the region enjoyed several unusually quiet seasons with no storms large enough to trigger a payout.

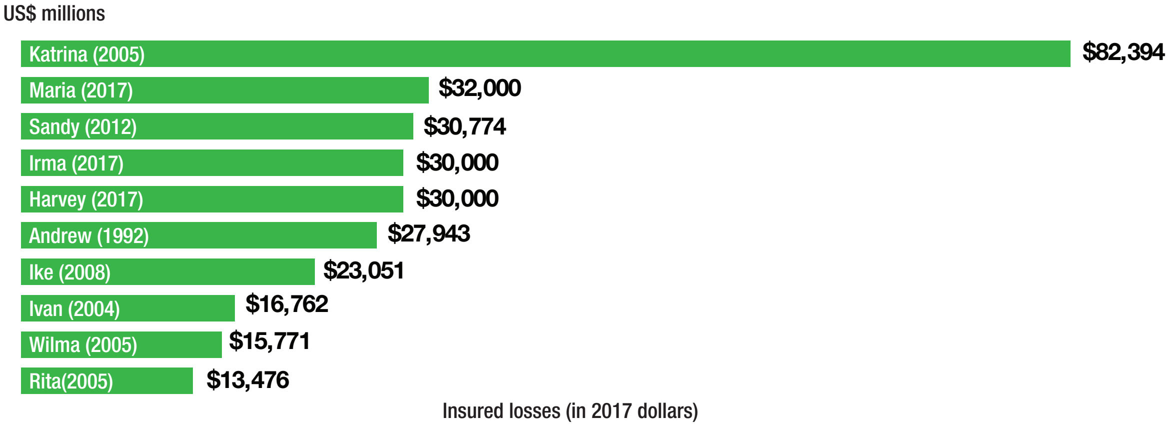
That quiet period ended with a vengeance, and CCRIF disbursed more than $92 million over the past two years, compared with less than $38 million in its first nine years of existence. Last year alone the facility paid out $61 million as back-to-back hurricanes ravaged the region in an epic season, part of the costliest year ever for weather-related disasters worldwide. Climate scientists say 2018 is likely to be another active year for hurricanes in the Atlantic Basin, based on early-season readings of surface sea and air temperatures and projections for the cyclical oceanic oscillations known as La Niña and El Niño.

While CCRIF was the first multinational risk pool, the model has gained momentum in recent years as several new facilities have opened for business:

- The African Risk Capacity (ARC), launched by the African Union in 2012, aims to provide a hedge against "extreme weather events driven by climate change" that threaten to cause hunger among the continent's most vulnerable populations, according to the founding treaty signed by 33 countries, from Libya to Madagascar.
- The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), founded in 2016, targets 15 Pacific Island nations susceptible to earthquakes and damage from rising sea levels,

Triple Threat

Harvey, Irma and Maria, three storms that came in quick succession last year, rank among the five costliest for insured losses.



Note: Estimates include related storm surges, flooding and oil rig impact
Source: Swiss Re Institute and Cat Perils

including Tonga, Vanuatu and the Marshall Islands.

- The Southeast Asia Disaster Risk Insurance Facility (SEADRIF) is expected to begin offering coverage in 2019, initially for three poor countries that are highly susceptible to flooding: Cambodia, Laos and Myanmar.

The World Bank says more than 30 reinsurance companies have sold coverage to sovereign risk pools, suggesting that virtually every major player is involved, including giants like Swiss Re and Munich Re. Although the market is relatively small (about $59 million in aggregate premiums as of 2016), the pools can offer a valuable gateway to additional business with governments and development banks. And the reinsurance industry is at record capacity, so it's natural that carriers would look to expand the market in regions with the largest protection gaps.

Rauch, of Munich Re, said the company's support for catastrophe insurance is also part of an effort to be a responsible global citizen while helping to develop more stable and growing economies, "which is a key value proposition of the insurance sector."

Sovereign risk pools help mitigate against disaster risks, but they go only a small way toward closing the insurance gap. For one thing, coverage amounts are tiny compared with the size and scope of the biggest natural disasters. For example, Hurricane Maria inflicted a massive blow against Dominica, causing some $1.4 billion in direct and indirect damages, nearly triple the island's gross domestic product, according to Aon Benfield. Dominica ultimately received insurance payouts totaling $20.3 million.

Owning the Risk

"The product that we sell is really not designed to be an end-all, be-all kind of thing," said Milo Pearson, a former California state insurance official who helped create CCRIF and now serves as its chairman. "We're really designed to help meet their short-term liquidity needs, to keep the government operating and to provide funds for services and for costs they incur until they have the opportunity to get funding elsewhere."

Pearson said CCRIF is trying to raise $50 million to $100 million in fresh capital from donor countries this year so it can expand coverage. The additional capital also would allow the agency to offer new parametric products protecting specific industries, such as agriculture and tourism, and addressing drought and other hazards, said CCRIF CEO Isaac Anthony. The African Risk Capacity is going even further afield, piloting a new insurance product that will pay out if there are major outbreaks of diseases such as Ebola, meningitis and Lassa fever.

Anthony expects additional countries to join CCRIF this year after seeing the impact it had in the busy 2017 storm season. "We have seen a greater appreciation for insurance and a technical understanding of the products over the last year," Anthony said. He added that the facility has sufficient resources "for the foreseeable future" despite dipping into accumulated reserves last year to meet its payment obligations. CCRIF also made a claim on tropical cyclone reinsurance last year for the first time since its inception. The facility bought about $173 million in reinsurance cover last year and has a policy of maintaining protection sufficient to survive a once-in-a-thousand-year aggregate loss event.

Another obstacle to success for the risk pools is the fact that relatively few eligible nations have elected to buy coverage. For example, while 33 nations signed on to the treaty creating the African Risk Capacity, only six nations purchased policies in the most recently reported agricultural season: Burkina Faso, Niger, Senegal, The Gambia, Mali and

"We have seen a greater appreciation for insurance and a technical understanding of the products over the last year."

Isaac Anthony
Caribbean Catastrophe Risk Insurance Facility

“Natural catastrophe insurance in essence is helping to stabilize economic development.”

Ernst Rauch
Munich Re

Mauritania. In the Pacific, only five of the 15 target countries have elected to buy coverage: Marshall Islands, Samoa, Tonga, Cook Islands and Vanuatu.

Olivier Mahul, a World Bank economist who helped develop the Caribbean and Pacific risk pools, notes that poor governments face severe budgetary constraints that can make it politically hard to justify paying insurance premiums. Many vulnerable countries "have been crisis-respondent, waiting for disaster to hit" and then counting on the world community to help, he said.

"Now they're moving into being a risk manager, but still, it requires effort to move from an ex-post to ex-ante risk financing strategy," said Mahul, global lead and program manager of the World Bank's Disaster Risk Financing and Insurance Program. "Ultimately, it's really about the ownership of risk," he said. "If the countries know that they have to step in and to cover emergency response, they will have the incentive to plan in advance."

While the payments may be small in comparison to the scope of the disasters, the quick cash injection can offer a welcome lift to a government struggling to mobilize. When Tropical Cyclone Pam struck Vanuatu in 2015, the island's government got a $1.9 million payout within seven days of the deadly storm. That was eight times the amount the government had budgeted for emergencies in the nation of 275,000 people. Funds were put to work immediately on critical recovery efforts, including flying nurses to affected areas to help save lives, according to the World Bank. Turks and Caicos Islands, which got a $13.6 million payment after suffering heavy damage from Hurricane Irma in September, plans to use the money for repairing schools.

Meanwhile, the government of the British Virgin Islands, which suffered an estimated $3 billion in damage from Irma, has come under pressure because it elected not to buy coverage through the CCRIF program. BVI Premier Orlando Smith has been quoted as saying the territory plans to join the facility at the urging of the United Kingdom, which is financing much of the island's reconstruction.

A Growing Need

By all accounts, the need for disaster risk financing will only rise as global warming contributes to increasingly severe flooding, droughts and violent storms. Last year weather events caused a record $300 billion in damage worldwide, according to Munich Re. Far less than half was covered by insurance.

The Atlantic hurricane season alone caused $215 billion in damage, of which only $92 billion was covered. It was an unusually active year for Atlantic hurricanes, ending a record 11-year run when no major hurricanes struck the U.S. mainland.

But 2016 also was an above-average season in the Atlantic Basin, and 2018 is predicted to continue the pattern. In the year's first major storm season outlook, climate scientists at Colorado State University predicted that seven hurricanes will develop during the season that runs from June 1 through Nov. 30. That is down from last year's 10 hurricanes but above the recent median of 6.5, according to CSU's Department of Atmospheric Science. The CSU scientists see a 63% chance that a major hurricane will make landfall on the U.S. coast, compared with the long-term average of 52%.

Climate scientists believe global warming will result in a growing number of weather-related natural catastrophes in the future. This is particularly true for rain-related events, such as the flooding that contributed to the heavy damage in and around Houston after Hurricane Harvey, last year's costliest disaster with an estimated $85 billion in overall losses and an estimated $19 billion in insured losses.

The impact of climate change on hurricanes is less clear, despite the intensity of last year's season. "Based on the observational data there are some indications that the stronger storms might be getting a little bit stronger, but it's hard to detect signals in that because there is year-to-year volatility," said Philip Klotzbach, a research scientist at CSU and lead author of its annual hurricane predictions.

But there is little dispute that the number of major loss events from natural disasters is rising. Munich Re has been tracking such events since 1980 and over the past five years has counted an average of 721 relevant natural disasters per year, including earthquakes, storms, floods and droughts. The average from 1990 to 2010 was 461 incidents a year. Some of this probably can be attributed to climate change, including rising sea levels, but much is a result of increased pressure to develop land, putting more people in harm's way.

Increasing Resilience

Sovereign risk pools—and similar programs operating at a subnational level in larger countries such as Turkey, Mexico and the Philippines—are part of a global effort to protect vulnerable populations from the harsh impacts of natural disasters and climate change. In 2015, the G-7 announced an initiative to provide access to disaster insurance for up to 400 million of the most vulnerable people in developing countries by 2020, up from an estimated 100 million. Coverage may be provided through a variety of public-private vehicles including sovereign pools, microinsurance and catastrophe bonds. In February, the World Bank issued its largest-ever cat bond, a $1.36 billion issue structured by Aon Securities, insuring Chile, Colombia, Peru and Mexico against a major earthquake over the next two to three years.

Insurance is only part of the solution. Anthony points out that CCRIF, which operates on a not-for-profit basis, has a program that offers technical assistance, including grants, for programs to manage and reduce disaster risk in the Caribbean. Robert Hartwig, associate professor of finance at the University of South Carolina's Darla Moore School of Business, says such mitigation efforts are essential.

"The incremental impacts of climate change such as rising sea level are not going to be insurable" through risk pooling, said Hartwig. "The long-run vitality of low-lying islands in the Caribbean is only going to be achieved through heavy investment in infrastructure."

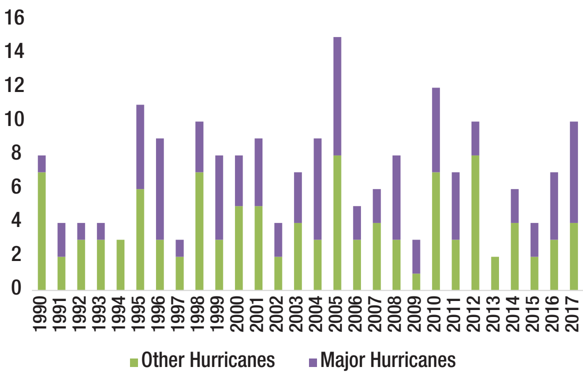
That idea is very much in the forefront in Dominica, where Prime Minister Roosevelt Skerrit has announced an ambitious $600 million plan to turn the tiny island nation into the world's first "climate-resilient country," with 4,000 new, hardened homes for the most vulnerable and projects to rebuild roads, schools and medical facilities. That would be a relief to residents like Arlington James, who said Maria was far worse than any of the storms he has survived, including Hurricane David in 1979, a massive cyclone previously considered the worst to strike the island in modern times.

Sovereign risk pools can help, not only by changing the mentality around disaster risk but also by encouraging transnational cooperation, said Mahul of the World Bank. "I would go beyond the pure financial aspect of those pools," said Mahul. "They also have a strong political aspect. ...This is one of the few opportunities where ministers of finance can talk about disaster risk finance, so the political agenda that these risk pools can also bring is very important."

World Bank officials and industry executives also say risk pools can save money over the long run and boost economic development. For example, farmers who know they have drought insurance are more likely to take a risk on a lucrative crop that takes longer to grow from seed to harvest. Risk pool modeling also has helped jump-start domestic insurance underwriting in some cases, such as proving the feasibility of crop insurance on some Pacific islands.

"Natural catastrophe insurance in essence is helping to stabilize economic development," said Rauch of Munich Re. "This can be shown by studies. But it takes a long-term view in order to achieve this." BR

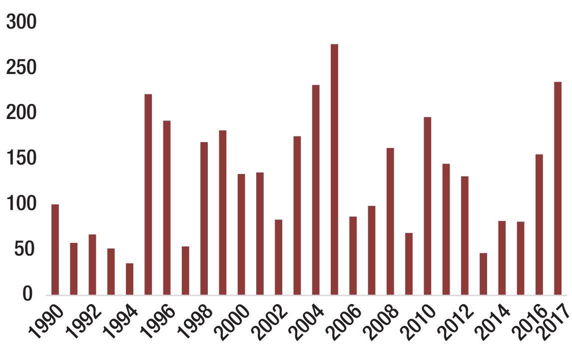
Hurricanes by Year, 1990-2017



Source: Department of Atmospheric Science, Colorado State University

Net Tropical Cyclone Activity

(1950-2000 average=100)



Source: Department of Atmospheric Science, Colorado State University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UNDER WATER: Last September, Hurricane Harvey caused widespread flooding across Texas including submerging this neighborhood in the city of Vidor.

Photo Credit: ASSOCIATED PRESS

Planning Ahead

Insurance leaders advise the most effective catastrophe work occurs pre-storm.

by Meg Green

From hurricanes, to mudslides, to wildfires, 2017 was a record natural catastrophe year. Swiss Re estimates $144 billion in nat cat losses, the highest ever. An A.M. BestTV-organized panel of property/casualty leaders said the series of catastrophic losses in 2017 highlight the need to invest in loss prevention, better engineering and clear explanations of deductibles. The panel was interviewed at the Risk and Insurance Management Society's annual conference in San Antonio.

Members of the panel are Devin McGoldrick, chief broking officer for Aon, Tom Varney, regional manager of Americas for Allianz Risk Consulting, George Stratts, president/CEO of Lexington Insurance and Bret Ahnell, EVP of FM Global. Following is an edited transcript of the interview.

Were there any surprises in the losses?

Varney: From the three hurricanes that happened, some of the surprises that we saw were obviously the devastation that happened down in Puerto Rico, the damage to the infrastructure for that area. Also with Harvey, the situation with the amount of flooding and the amount of rain that happened in a short time in an area. That really challenged the infrastructure—if you put a lot of water in a small place there's going to be a problem. It really showed the aspects around where people are living along sea areas or rivers. The need to look into how these places are built and if there is adequate drainage for those types of situations.

Stratts: Another element of surprise was the sheer magnitude of the events and the compressed time frame in which they took place. We hadn't had a land-falling hurricane in the United States in some time, let alone to have two in 16 days, and three Category 4s when we include Puerto Rico. It never happened in our history. Couple that with an earthquake in Mexico City and then the wildfires in California and you really start to tax the infrastructure of the insurance industry and how can you respond. That in and of itself was a bit of a surprise because we hadn't seen that one, the severity and two, so many of them happening so quickly in such a short period of time.

Ahnell: The other thing with Maria was the power, the grid. We all knew that it wasn't a very good grid system down there. I don't think any of us had anticipated that the entire island would be without power for months. That really complicated the issues dramatically.

With Harvey, if you spend any time in Houston you know downtown is basically subterranean. It's

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all connected by tunnel systems. We saw that with Tropical Storm Allison. Water's always going to find its lowest point, so it makes it a lot more challenging. The fact that we saw 53 inches of rain in about a 24 hour period for Houston unfortunately really wasn't unprecedented, because we've seen that with other storms in the past. Allison dropped close to that in about 12 hours with just a tropical storm. The size of the events, that short period of time, coupled with a lot of infrastructure challenges, it really challenged the entire industry.

McGoldrick: As with the others, we were definitely shocked by the sheer magnitude of all of the events. It pinpointed certain aspects, such as figuring out deductibles and the struggle our industry has and our segment has, on articulating exactly what these deductibles are. From a client perspective, understanding what your deductible is ahead of time so that there aren't surprises. Really drilling down on accurate valuations and so the claims handling can be that much faster and efficient.

Have you seen any underwriting changes in the wake of the nat cats of 2017?

Stratts: With any event there's always an opportunity to learn. There's always an opportunity to figure out what worked well, what didn't work well. We undertook an extensive after-action review, not just from underwriting, but for claims, for engineering, for operations, communication, catastrophe modeling and how we tie all that together because they're all interdependent.

What can we do more effectively in underwriting coverage? How can we respond more effectively pre-event from an engineering perspective and also post-[event], when our engineers are out with our claims adjusters, surveying and helping that client make sure these things don't happen again to the same extent that they may have just impacted them.

From an underwriting perspective, some lessons learned were some of the lessons that unfortunately you learn again and again. If the market didn't compromise, if we didn't compromise in the underwriting deductible, what would have the loss been? Making sure that you have that integrity in deductibles is important.

From connectivity, making sure that the claims team and the engineering team are on the same page and are at the same site, all the way down to drones. When you're using drones to help in the adjustment process, that you've already cleared any of the regulatory requirements you need ahead of time so that you can get there as quickly as possible.

It was a very extensive review. Some new lessons learned. Some lessons that you go back and say, do we need to learn this again and again? Enough's enough, in that respect.

Varney: I want to go back to the loss control side—helping clients understand the situation that they're in and the business that they're in and what are the impacts that could happen if, in fact, you were to lose a facility or even lose access to a facility. What would the situation be? What are your backups?

Trying to proactively work with clients to help them better understand what their business impacts are or what their touch points are that could be tough to replace or to look elsewhere to do. That's a big thing that we have been focusing on.

Looking over pre-emergency plans or business continuity plans that they put together. Did they work? How did they respond? What are things that need to be done that need to be worked on that didn't do what was expected?

Ahnell: It also emphasized the importance of pre-loss planning from a loss prevention perspective because you take into account Harvey. To put flood barriers into place, people have to know what to do. You have to know where the equipment is. Do you have the right people in place? People need to know what to do. Going though that and having some type of a procedure to go through so you're not doing it for the very first time hours before the storm hits is really important.

Also, from a claims perspective, really understanding the policy, having those discussions up-front, before there's an event, taking the pressure off to understand how the policy's going to respond so when the event happens everybody's working together, rather than arguing over the words in the policy or the application or the deductible, for example.

Did the cats have an impact on prices, terms and conditions?

McGoldrick: Right out of the gate we saw a quick, knee-jerk reaction as far as terms and conditions. The underwriters are definitely scrutinizing what they're putting forth a lot more right now. I'd be lying if I sat here and said that there hasn't been some obvious pricing pressure. We're coming off of 17 straight quarters of decreasing rates on average for our clients. We're definitely seeing a shift. We saw in Q4 a slight uptick. In the aggregate we're seeing upward of a 7.65% increase on average for our clients.

The numbers are a little bit misleading. The industry and the segment is undoubtedly stressed. If you look at 2016 and 2017 underwriting results there was certainly a need for some level of correction.

Our clients see that, just as we see that. Each client is very different. We look at that 7.65%. That encompasses a lot of different clients for us.

We have to be careful when we look at that number because there are different buckets. There is cat versus non-cat. There are heavy loss accounts versus no loss accounts. There are shared and layered versus single carrier. Each client needs to understand what their bucket is to really understand and know what to expect from their renewal.

You counter that with abundant capacity. You put out a number somewhere along the lines of $733 billion of capacity. That is key. With all of the pressure on price, there are a lot of people on the outside looking in on some good programs. The good clients, from a loss and risk perspective, are going to continue to see favorable rates. From an Aon perspective, it's important for us to find that capacity for our clients. You look at whether it's found in London, Bermuda, Asia or working with our Aon Benfield colleagues, it's finding that capacity to offer our clients some options.

The capacity is certainly out there and it's allowing our clients the option of sticking with the incumbent capacity or looking elsewhere. It's a very important discussion to understand the relationships and moving forward, who they want to be with.

Stratts: It really does depend on the individual risk, the individual risk characteristics, how that risk has performed, not just in terms of its own experience but from a rate perspective over the past several years. If we step back and look at where we find ourselves at this point or where we found ourselves in the fourth quarter, rate levels from an industry perspective were right at about where they were in 1999. On a relative basis we're at one of the lowest points in our history.

With that, there's a point of volatility. Did that happen with this quarter or the fourth quarter cats? We're still going through renewals. We're still experiencing what's happening. It's a continuum of experience. You have to recognize that where we are as a holistic marketplace, that low point does lend itself to some degree of volatility going forward.

The other piece that we need to make sure that gets shared is, when you just focus on price that leaves everything else off, that's part of that relationship and partnership. I'm sure we could always find a lower price but is that the right fit? Is it the right engineering solution? Is it the right claims promise that supports a prompt delivery of what that promise means to pay when those events happen?

All of those things need to be weighed in. That's where the differentiation comes in. There is always going to be price differential and service differential and what's really the best thing for that client at that point in time?

Ahnell: We're back at a time, like he said, 1999, 2000, that time frame. We're at an all-time low. There's no margin for error. So when you have Mother Nature have a year like we had, even if we had one event or two events, the industry was probably going to lose money. We have to get more revenue. You have to do it in a way that's smart and going client-by-client, based upon that. It's not all about price. There are a lot of other components to it.

Don't forget about the loss-prevention angle. It proved out to be where people that actually did smart things with loss prevention were looking at minor distractions.

People that ignored it and focused purely on the risk transfer component were looking at major disasters in many cases. It's looking at the whole equation of where you invest your money. Rather than just paying the premium, there are a lot of smart things you can do to look after your assets for your company.

McGoldrick: Times like this, it's critical for a client to really assess what limits they're buying, what deductibles and retentions they're taking because in a softer market more limit is available. At this time is that necessary? This is where it's important.

Certainly from an Aon perspective, our analytics and our involvement with RMS, it's important to very accurately determine what their limits should be, what their appetite is and from a retention level as well, what are they comfortable taking? It's times like this everybody reassesses where they currently stand.

How has the industry changed since Tropical Storm Allison in 2001 to Harvey? What's being done differently today?

Ahnell: There have been some significant advancements in loss prevention, the technology and the number of products that have been made available. Go back to 2001 with Tropical Storm Allison.

The storm was coming in, most people were using sandbags to fill in the holes, the barriers to keep the water from going down to the tunnel systems, the pedestrian walkways and so forth. A lot of labor would be required to do that, a lot of advanced notice to be able to do that.

Today there are about two dozen different products out there that you can buy in advance that are made to sit into place. They are lightweight aluminum products that can slide right in to keep the water out.

Sandbags aren't effective. Plus they're considered to be hazardous waste nowadays so you have to dispose of them accordingly.

With the advancements now, within a few hours a handful of people can go out and protect that entire facility with the type of products that are out there. Take windstorm, for example. Going back 15 years ago, you couldn't put a roof on that would stand up to a tropical storm, let alone a Cat 3 or 4 hurricane. Today you can put roof assemblies on that can stand up to 175 miles per hour.

It's not just the availability. It's the cost factor. The costs have come way down. It's a lot more affordable to make those investments. You're seeing a lot more companies that know where they're exposed.

There are a lot of options that are out there. Part of all of our jobs is to educate people to make sure that they're aware of what's available and give them the right advice so that they can take the right actions.

Stratts: There have been tremendous advancements in engineering and loss prevention technology and capability. There have also been advancements in cat modeling, how we understand the nature of that catastrophe risk before it happens, whether that's wind, whether that's earthquake or severe convective storm or even flood.

The amount that, from a third-party vendor base, the changes in enhancements they've made and also how carriers then build proprietary adjustments themselves. Whether it's taking inputs of engineering data they have or their own claims experience and their own data sets, you're starting to see much more robust capabilities in the catastrophe modeling space.

That leads to shrinking that area of uncertainty that you had 10 years ago or even 20 years ago when these events were happening. They're not perfect but they are far better than they were a time ago, back in 2001 when Allison hit.

The other piece that's a lot different is the amount of additional capacity and where that capacity comes from in the marketplace. Alternative capital is in many people's vernacular in the industry, where in 2001 it wasn't. How that impacts the capacity available for catastrophe risk, which is complemented by models and their ability to better ascertain and measure their risk, that's a very different component and dynamic that is shaping our industry since 2001. BR

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Go to **page 46** of the digital edition at *bestreview.com* to watch a video about this story.

Science of Life

More than 12 million people have taken direct-to-consumer DNA tests, with almost 8 million of those tests occurring since 2016.

Genomics is transforming medicine—and slowly but inevitably reshaping insurance.

The rapidly advancing science is forcing the industry to navigate a multitude of actuarial, ethical, privacy and even reputational concerns.

Insurers are also contending with the proliferation of antibiotic resistant infections and the problem of epidemics.

In the following special section, *Best's Review* explores how insurers are addressing the challenges of the new normal of genetic testing, the rise in antibiotic and antimicrobial resistance and the threat of outbreaks of climate-sensitive diseases such as malaria, Lyme disease, West Nile virus and cholera that could be exacerbated by extreme weather events.

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Mapping The Future

Genomics poses an opportunity and a threat to insurers, as they call for equal access to genetic information to effectively underwrite and price risk.

by Jeff Roberts

The geneticist took a deep breath and sighed. Christoph Nabholz then paused for a moment, considering the complex issues confronting insurers in the age of genomics. Adverse selection. Sensitive privacy rights concerns. The recent explosion in genetic testing.

He chose his words carefully, addressing the delicate subject threatening the industry in measured language.

As many genetic tests were taken last year as in the previous decade, the Swiss Re expert said. And many of the consumers receiving bad news likely bought insurance products to offset their risk.

"It's a huge boom in testing, and clearly insurance will be affected," said Nabholz, the reinsurer's head of research and development, life and health, in a phone interview from Switzerland. "It's a reality.

"It's really becoming a concern for the industry, at least in the U.S."

Genomics is transforming medicine—and slowly but inevitably reshaping insurance.

Key Points

Testing Boom: Experts witnessed a spike in genetic testing in 2017, as the number of tests taken matched the previous 10 years.

Rules Differ: Every state allows life insurers to consider existing genetic test results in underwriting. But eight states prohibit the use of genetic information in long-term care insurance.

Over the Counter: The direct-to-consumer testing market reached $99 million in 2017 and is projected to top $300 million by 2022.

The rapidly advancing science is forcing the industry to navigate a multitude of actuarial, ethical, privacy and even reputational concerns.

The fundamental business models for life, disability, critical illness and long-term care insurers could be at stake given the growing existential threat of asymmetry of information as more people buy insurance without disclosing their predisposition to certain diseases.

But genomics also offers the chance to better understand risk, reduce claims, engage customers and help them live healthier and longer lives.

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"Genomics is both a threat and an opportunity," said Ari Chester, a partner with McKinsey and Company. "There is a challenge in the medium term with asymmetry of information, but in the long term, that will resolve itself.

"And I believe the industry will be innovative. They will embrace genomics as an opportunity to acquire insight, engage with customers and possibly as a way to improve their customers' health profiles. It's a very exciting space."

The crux of the issue lies in insurers' need for equal access to deeply personal genetic data to effectively underwrite and price coverage. It intersects consumers' right to privacy and fear of discrimination with the industry's need to manage the risk it assumes.

"It's a very sensitive and potentially emotional issue," said Dr. Dave Rengachary, senior vice president and chief medical director, U.S. mortality markets for Reinsurance Group of America.

And it's a wide-ranging issue.

"There are privacy concerns. Reputational concerns. Regulatory concerns," Chester said. "It requires a long-term view because genomics and the real insight it provides about your health is in its infancy."

Genomics just may become the greatest disruptor to the life, disability, critical illness and long-term care industries, the equivalent to global warming or cybersecurity risks in the property/casualty space.

The sequencing of the human genome, genetic testing and genome editing are driving innovation in the early detection, treatment and even prevention of asymptomatic disease through personalized or precision medicine.

They will influence everything from how insurance is underwritten and priced to how products are designed.

But insurers are moving cautiously. The science is relatively immature. The regulatory landscape remains uncertain, with at least one state having proposed a ban on using genetic information to underwrite life policies.

And insurers are all too aware of the sticky privacy, data ownership and media coverage concerns that would follow the rejection of applicants due to gene mutations or variants. So they almost uniformly don't ask applicants to undergo testing for underwriting purposes and rarely seek existing information.

"Right now genetics is not a material insight in the underwriting process, so it's not asked for," McKinsey's Chester said. "If it happens to be in an electronic health record or in a physician's statement, and if the underwriter happens to request it—which they often do when they're underwriting for high face value policies—then they will certainly be aware of it."

However, maintaining access to applicants' existing genetic data—especially clinical test results—is crucial, experts say. The threat of nondisclosure regulation casts an alarming shadow over the industry.

That is why many have called for uniform oversight and ethical guidelines, preferably in the form of self-regulation.

"Genomics is here," said Mariana Gomez-Vock, assistant general counsel for the American Council of Life Insurers. "It is an essential issue for the life insurance industry because of the vital role medical information plays in underwriting many policies.

"We need to be able to evaluate the potential effect of that information on the mortality or morbidity risk. There must be a level playing field between the applicant and the insurer."

Only a Matter of Time

The secrets were once buried deep, hidden in the paired strands of DNA every person carries.

The mysteries of the genome—an individual's complete set of DNA—remained shrouded in 1990, when the Human Genome Project began.

A watershed moment came in 2003 when the international research project completed its mission, sequencing the genome. Decoding the blueprint for every human being—which directs their development and influences their health—has provided revolutionary insight ever since.

"We just want to make sure we don't lose the right to get this information. That's the key for us," Nabholz said.

That is why the significant spike last year in genetic testing—two-thirds of which were clinical tests ordered by doctors and the rest direct-to-consumer tests from companies like 23andMe—are such a concern, according to Nabholz.

For instance, 23andMe offers risk reports for at least 11 diseases, providing the public with revealing genetic information. Those who know they're predisposed to serious illness could buy excessive and underpriced coverage. And those who test negative could delay insurance purchases or allow their policies to lapse.

More than 12 million people have taken direct-to-consumer DNA tests, with almost 8 million of those tests occurring since 2016. Recent studies indicate as much as 15% of the U.S. population has taken a genetic test, according to Nabholz.

"People who get a genetic test back that is unfavorable, of course they're going to seek to protect themselves and their family," he said. "That's a natural reaction.

"If people take out insurance—which we know they will—it's only a matter of time before we'll see the results."

It's already happening.

Research by Harvard geneticist Dr. Robert Green found those who know they possess the gene variant associated with increased risk of Alzheimer's disease are nearly six times more likely to buy long-term care insurance than those who do not.

Antiselection threatens the integrity of risk pools and could inflate rates beyond the reach of applicants.

"It is crucial we maintain access, with applicants' consent, to vital medical records and other pertinent information of importance in the underwriting process," Gomez-Vock said.

Life insurers have not been overly concerned given the relatively small segment of the population that has been tested. But that seems to be rapidly changing as testing becomes more accessible, affordable (from $200 to $1,500) and produces quick results.

Dr. John W. Rowe, professor of health policy and aging at the Columbia University Mailman School of Public Health, said insurers have not expressed much concern over antiselection. But that very well could change as genomics matures.

"The basis for concern is more on the part of insurance companies than it is on the individual," said Rowe, the CEO of Mount Sinai NYU Health from 1998 to 2000 and of Aetna from 2000 to 2006. "I don't think this is a privacy rights issue so far.

"There is evidence of lots of people signing up for benefits after they get information saying they're at risk. There is no protection for the insurance companies. And we have not seen—to my knowledge—any movement on the part of the insurance companies to protect themselves."

Insurers Take Notice of Direct-to-Consumer Genetic Testing

Genetic testing has gone direct to consumer.

Companies such as 23andMe and Color have branched out beyond ancestry, sequencing parts of consumers' genomes searching for predisposition to a range of disease.

In 2015, the Food and Drug Administration allowed 23andMe to inform customers if they possessed certain disease-carrying gene mutations that could be passed to their children. Then last year, it approved the company to sell genetic tests for disease risk directly to consumers for the first time.

"We have to take notice of the increase in patient-directed tests from 23andMe and other vendors," said Mariana Gomez-Vock, assistant general counsel for the American Council of Life Insurers.

Over-the-counter testing is often less comprehensive than clinical tests and can be inaccurate. But the overall global market (including ancestry tests) reached $99 million in 2017, according to research firm Kalorama Information.

It projects that market will grow to $310 million by 2022, while a report from Credence Research estimates it will reach $340 million by then.

More than 5 million people worldwide have purchased 23andMe genetic services. The company says it does not share test results with third parties without permission and that information is not included in medical records.

As of April, 23andMe is the only company the FDA has authorized to sell over-the-counter genetic health risk kits without a prescription. It tests for at least 11 diseases.

Color tests for certain types of cancer as well as hereditary heart disease. But it requires a physician's approval.

There is profound interest in genetic testing. Sixty-five percent of U.S. employees would be interested in employer-sponsored, affordable access to genetic testing for health reasons if only they and their doctors viewed the results, according to a 2017 Wamberg Genomic Consumer Survey.

However, the clinical value of direct-to-consumer tests is debatable, experts say.

"Direct-to-consumer testing, while certainly getting better in quality, is fairly different from a scientific basis than clinical testing," said Dr. Daniel Zimmerman, senior vice president and chief medical director GST for Reinsurance Group of America.

"The predictive value of some of those is marginal in that it may show that you have a little bit of an increased risk of developing Disease X. Having spoken with various experts in the field, while these are of interest to many people and have some value, in the big scheme of overall risk prediction, they may not carry that much weight."

And there is at least one concern, experts say. Consumers can be overwhelmed by genetic test results because they may not completely understand them.

"In medicine, we talk about the case of the incidental gene-oma: A patient who shows up in the office with a 23andMe report, drops it on the doctor's desk and says, 'I think I have cancer, and I haven't slept a wink in the last two weeks,'" said Dr. John W. Rowe, professor of health policy and aging at the Columbia University Mailman School of Public Health. "And they're completely misinterpreting the test and demanding all kinds of tests like CAT scans and MRIs, which are all expensive and unnecessary."

“[Adverse selection] is really becoming a concern for the industry, at least in the U.S.”

Christoph Nabholz
Swiss Re

Despite the threat, it is essential that insurers handle the issue properly the first time or face serious reputational damage, according to Dr. Daniel Zimmerman, senior vice president and chief medical director global support team for Reinsurance Group of America.

“You have to get this right,” he said. “You can’t mess this up because the public and consumers will remember that. When you breach a responsibility, you lose trust.

“In any situation in life, once you lose trust, it’s extremely difficult to earn it back.”

A Wide Spectrum

But the regulatory landscape remains unsettled.

A federal law passed in 2008 prevents health insurers from seeking the results of genetic testing. However, life, disability, critical illness and long-term care insurers are not bound by the Genetic Information Nondiscrimination Act (GINA).

So state regulators provide oversight on genomics, as they do with most insurance issues.

Every state allows life insurers to consider existing genetic test results in underwriting. That information often is found in patient health records.

But that access has been threatened in at least one state.

The Florida Legislature introduced a bill in December 2017 that would have prohibited the use of any genetic information in evaluating life and long-term care underwriting. The bill was withdrawn in March after meeting stiff resistance.

“It represented an unprecedented assault on the independence of a business to operate wisely and in the interest of present and future policyholders,” Gomez-Vock said.

Eight states already prohibit the use of genetic test results or information in underwriting long-term care insurance, and four states bar its use in disability income insurance.

Massachusetts and Vermont block life insurers from requiring genetic testing. Six states prohibit testing for long-term care insurance, and three states have prohibitions for disability income insurance.

Some insurers such as Northwestern Mutual do request existing genetic information.

“We do not require genetic testing, but we ask applicants to share all information about their medical history, in accordance with state laws,” spokesperson Betsy Hoylman said in a statement. “It’s important during the underwriting process that applicants share all medically relevant information with us to ensure we can offer a policy at the best possible price.”

A wide regulatory spectrum exists in Europe and beyond.

Austria, France and Portugal prohibit the use of genetic data for insurance purposes. Germany and Switzerland allow previously conducted genetic tests to be considered in the risk evaluation of high-value life policies.

In England, insurers have agreed to a moratorium on using predictive genetic information except for life policies worth more than £500,000 (close to $700,000). In India and Japan, insurers also self-regulate.

“There’s a general agreement around the globe that insurers shouldn’t be sending people for genetic tests for underwriting purposes,” Nabholz said. “But once you have test results, unless prohibited by law, the insurance company should be able to ask for the information.

“For many conditions, data is not there yet. So we are concentrating, if at all, on a few conditions like breast cancer and colon cancer genes, where we actually know what the risk is and what the price would be.”

Time to Act?

But the time is approaching for insurance to evolve with the science, some industry experts say.

Genomics is becoming a routine part of health care. And experts envision most Americans will

"Many years from now, we will look back and see this as an excellent vehicle for the insurer and the consumer to engage in a way that life insurers have been slow to in the past."

Dr. Dave Rengachary
Reinsurance Group of America

undergo genetic testing in the next two decades.

Genomics already can warn carriers possessing BRCA1 and BRCA2 genes—associated with higher risk of breast and ovarian cancer in women and prostate cancer in men—and ApoE4, a genetic risk factor for Alzheimer's disease.

And it holds promise for targeted therapy to treat and even prevent inherited disorders such as heart disease, cancer and cystic fibrosis.

After all, insurers want their customers alive and well. It's not just altruism. It's good business.

The industry's long-term interests are served when it has wide adoption and large pools of applicants.

Early detection and intervention increase the odds of customers living long and healthy lives. That means people paying premiums longer as well as reduced or even eliminated medical costs for insurers.

And genomics could lead to new products such as gene therapy coverage.

Life insurers are seeing a steadily increasing amount of genetic information, ACLI's Gomez-Vock said. Although there is very little predictive testing currently, that will change, she added.

And without equal access to that data, premiums could soar.

Meanwhile, waiting too long to act could allow insurtech startups to disrupt the space.

"As the genetics industry matures, it has the potential to upend the traditional insurance world," said Caribou Honig, a venture capitalist in the insurtech space.

But the ultimate direction for insurers will be to embrace genomics, with the potential to improve policyholders' well-being and their underwriting, RGA's Rengachary said.

"Many years from now, we will look back and see this as an excellent vehicle for the insurer and the consumer to engage in a way that life insurers have been slow to in the past," he added.

McKinsey's Chester agrees.

"In the long term, the very innovative life insurance companies might not only request genetic testing but proactively offer it," he said. "They might say, 'We're going to give you insights into your health and let you act on them, but we're not going to let it influence the underwriting process or cancel your policy if anything shows up.'

"That way they are embracing genomics as a channel to create engagement and support health."

Some already are.

Last year, MassMutual began offering genome sequencing to customers at a reduced price of $1,400 (instead of $2,500) through an agreement with Human Longevity Inc.

The deal was believed to be the first involving a U.S. life insurer. MassMutual declined an interview request.

Of course, life insurance is a voluntary product. Applicants have the option to grant insurers access to their medical information if they want coverage.

Insurers also acknowledge that predictive tests reveal only that applicants are more likely to develop an illness. Disease is not inevitable for those who carry genetic risk factors. Environment, lifestyle (diet and exercise) and family history play large roles.

In fact, the U.S. government seeks to build a 1 million-strong database of diverse volunteers to compare their genetics, lifestyles and environments. The $1.45 billion, decade-long project, which opened enrollment in May, will explore why some people avoid illness despite carrying increased genetic risk and how to prevent and treat disease.

"You cannot solely look at the genetic test result alone," RGA's Zimmerman said. "You put it in the context of the individual. Are they undertaking measures to mitigate what genetic tests may have found?

"It has to be in the holistic picture of the person."

And insurers have to alleviate fears that they will broadly deny coverage or make it unaffordable.

"It's important to go above and beyond even what the regulations allow," Zimmerman said. "There's a responsibility that insurers have." BR

The Rise of RESISTANCE

The use of antibiotics continues to climb, but resistance to the drugs and a rise in antibiotic-resistant superbugs are challenging insurers to find solutions.

by Lori Chordas

U.S. health care providers prescribe more than 47 million antibiotics each year. Yet as many as one-third of those medications are unnecessary, according to the U.S. Centers for Disease Control and Prevention.

Antibiotics are victims of their own success, said Dr. Daniel Knecht, vice president of clinical strategy and policy at Aetna.

"They work incredibly well. They're inexpensive and have a benign side effect profile," he said.

However, overuse and improper use of antibiotics for viral or nonbacterial infections such as the flu and common cold can lessen their effectiveness and turn the life-saving medications into potentially lethal antidotes.

More than 23,000 people die from antibiotic-resistant infections each year in the United States, the CDC reports.

Every time someone takes antibiotics, sensitive bacteria can be destroyed and resistant germs may be left behind to grow and multiply, said Michael D. Maran, head of science at XL Catlin.

Lack of new drug developments by pharmaceutical manufacturers due to reduced economic incentives and challenging regulatory requirements, along with the spread of antibiotics from animals to humans, are increasing the emergence of resistant bacteria.

Antibiotic resistance (ABR) has become one of the world's most pressing public health problems and an avoidable burden to global health care systems and insurers.

ABR is a subset of antimicrobial resistance

Key Points

A New Dose of Reality: In recent years, antibiotic resistance has risen to dangerously high levels globally.

The Side Effects: New drug-resistant superbugs are becoming a costly concern for the insurance industry.

Take as Needed: Insurers need to educate clinicians about the safe and prudent use of antibiotics and incent providers to follow those guidelines.

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(AMR), which is the ability of microbes, such as viruses, fungi and parasites, to resist the effects of medication previously used to treat them.

The number of antibiotic-resistant cases has more than doubled over the past decade. At least 2 million Americans become infected with bacteria that are resistant to antibiotics each year, the CDC reports.

The annual cost to treat those infections now exceeds $2 billion, according to a study by researchers at Emory University and Saint Louis University.

Insurers are increasingly left holding part of the bill.

Health plans and life insurers are most directly impacted by AMR, driven by increased mortality rates and health care costs, said Florian Boecker, chief solutions officer, life and health at PartnerRe.

Other lines of business such as workers' compensation, medical malpractice, business interruption and product liability could be impacted as well, but to a lesser extent, he said.

Antibiotic resistance can cause a spike in harder-to-treat illnesses, additional treatment costs, the need for more expensive alternative medications and longer hospital stays, XL Catlin's Maran said.

The average health care spending for patients with antibiotic resistance is about 165% higher than for patients with nonresistant infections, Emory University and Saint Louis University researchers found in the first national estimate of the incremental costs for treating ABR infections.

Hospital stays for antibiotic-resistant patients increase from about six days to more than 12 days and the infections cause a two-fold rise in the risk of death for hospitalized patients, according to reports.

Health Alert

Antibiotics and their antimicrobial agent counterparts have been used for the last 90 years to treat patients with infectious diseases, as well as for individuals whose immune systems have been weakened by chemotherapy or major surgery.

After being mass produced during World War II, the use of antibiotics soared in the second half of the 20th century.

But growing resistance to the drugs is now adding nearly $1,400 to the cost of treating a patient with a bacterial infection, according to Emory University and Saint Louis University researchers.

ABR and AMR can cause serious consequences for insurers beyond having to cover expensive oral antibiotics, said Kelly Chillingworth, senior pharmacy consultant and national practice leader at Lockton Benefits Group.

"If community-acquired infections can't be cured, patients end up with additional inpatient days, multiple infused therapies, support treatments such as IV fluids and electrolytes, risk of complications if other conditions exist, extended home care and possibly death," she said.

The rise of new superbugs caused by antibacterial resistance could also drive up costs for the industry.

Last year, antibiotic-resistant "nightmare bacteria" infections were found over 200 times in more than 20 states, the CDC reports. The bacteria, known as carbapenem-resistant Enterobacteriaceae, or CRE, can cause pneumonia as well as infections of the blood stream and urinary tract.

The CDC said those bacteria are almost impossible to treat with available drugs, and mortality rates could top 50%.

In March, a man in the United Kingdom was diagnosed with the first-ever case of gonorrhea untreatable by two front-line antibiotics.

A few days later, two similar cases were reported in Australia.

Experts fear cases like those are timely reminders of what's to come.

In order to treat superbugs, physicians may have to resort to medications used as a last line of defense, Aetna's Knecht said.

Oftentimes, those "back-up" drugs are less effective or may have more toxic side effects, he said.

Sound the Alarm

The insurance industry is waging a war against antibiotic resistance.

XL Catlin is constantly evaluating how its policies would react to those risks, along with looking at ways to address those exposures in coverage enhancements or new policies, Maran said.

The Bermuda-based global insurance and reinsurance company has several lines of insurance that could be affected by AMR, including casualty, excess casualty and several specialty coverages including livestock.

Insurers are also promoting the use of vaccinations to ward off various diseases and

It's important to monitor antibiotic-resistant and antimicrobial-resistant risk, and "to educate and to share insights around the changing risk landscape in hopes that the earlier we adapt to these changes, the better we believe we are prepared."

Yommy Chiu
Swiss Re

creating education programs focused on the safe use of antibiotics.

It's important to change the conversation between health care providers and patients, Maran said.

"Many providers resort to antibiotics at the first sign of illness. But it's important for both doctors and their patients to be informed when prescribing or taking antibiotics to treat a virus that, for instance, won't benefit from the drugs," he said.

Last year, Aetna launched a high prescriber initiative in order to reduce the frequency of unnecessary antibiotic prescriptions.

Aetna is currently collaborating with the CDC to identify clinicians who are inappropriately prescribing antibiotics for acute bronchitis in adults.

About 44% of antibiotics prescribed in the outpatient setting are for acute respiratory conditions including bronchitis, yet 50% of them are unnecessary, The Pew Charitable Trusts reports.

"We need to partner with various stakeholders across the health care system to deploy clinical innovation that addresses this threat," Knecht said.

Aetna uses data analytics to identify physicians who are overprescribing antibiotics, along with those who are prudently using the medications. "We send them a letter, along with CDC guidelines, to let them know they are antibiotic stewards and are doing a good job or that they need additional education and resources," he said.

So far, the outreaches have been generally well received, sparking productive conversations between providers and Aetna around best prescribing practices, Knecht said.

Lockton is also educating about the effective use of antibiotics through initiatives such as its nurse advocate program. The program educates employers who need additional support in areas such as medication adherence, proper dosing and side effect management.

It's important for insurers and reinsurers to monitor ABR and AMR risk, said Yommy Chiu, head of life and health R&D group underwriting at Swiss Re.

"We also have to educate and share insights around the changing risk landscape in hopes that the earlier we adapt to these changes, the better we believe we are prepared," she said.

Collective Effort

Upon winning the Nobel Prize in 1945 for discovering penicillin, Scottish scientist Sir Alexander Fleming warned about the possibility of antibiotic resistance.

"He said that ultimately those who overprescribe or misuse penicillin are morally responsible for the death of the individuals infected by bacteria that is resistant to the drug," Aetna's Knecht said.

Seven decades later, antibiotic resistance has become one of the biggest threats to the world's collective health, he said.

If unaddressed, the global death toll from drug-resistant infections could top 10 million by 2050, the Council on Foreign Relations reports. That's more than cancer, auto accidents, diabetes and other diseases combined.

Efforts to combat the threat could significantly drive down mortality rates, along with costs to global health care systems and insurers.

Reducing antibiotic-resistant infections by just 20% could save up to $5.2 billion in annual health care costs and cut up to $11.3 million spent on additional in-hospital days for patients with those infections, the Alliance for the Prudent Use of Antibiotics reports.

It's going to take a village to make that happen.

Pharmaceutical companies will need to develop new antibiotics, which is an "important step," Lockton's Chillingworth said.

But innovative drug development is not the complete solution. Appropriate prescribing of antibiotics only when needed, using the right drug for the right bacteria, sanitation and infection prevention, full compliance with therapy and intensive patient education are also critical components, she said.

The pipeline for those new medications is running dry. No new class of antibiotics has been discovered since the mid-1980s.

Also, financial incentives aren't generally enticing enough for drug companies to develop and commercialize antibiotics, Knecht said. "In fact, many have gotten out of the business of developing therapies that are only administered for a handful of days. Instead, they are focused on developing long-term therapy drugs for diabetes, hypertension and other chronic diseases."

There has been a push by some drug companies and hospitals to create "pulse" dose regimens aimed at killing germs with the fewest doses possible, Chillingworth said. Zithromax (azithromycin) is a pulse regimen that's taken over a five-day period but stays in the body for 10 days to kill bacteria and minimize resistance.

Global governments and international organizations also have a role to play in the fight against ABR and AMR.

Policymakers are supporting the development of new strategies to prevent infections, coordinating action to regulate antibiotic use and increasing investment to tackle the problem.

In 2015, the Obama administration pledged more than $1 billion to develop new antibiotics, reduce inappropriate use of the drugs and increase surveillance of drug-resistant strains.

The following year, Congress appropriated $160 million in new funding to the CDC to enhance the tracking of antibiotic resistance mechanisms and resistant infections and to

A Closer Look at Antibiotic Resistance

- **Antibiotics were introduced in the 1920s** with the discovery of penicillin. Today, tens of billions of antibiotic doses are consumed annually around the world.

- **One out of every three** antibiotic prescriptions is unnecessary**.**

- **Nearly 2 million Americans acquire serious antibiotic-resistant infections each year**, and 23,000 die as a result of those infections.

- **Three major factors in the growth of antibiotic resistance are:** overuse of antibiotics in medicine; the spread of resistant strains of bacteria from person to person or from nonhuman sources in the environment; and overuse of antibiotics in food and animals to promote growth.

- **Seventy-percent** of medically important antibiotics are given to animals in the United States.

- **Antimicrobial resistance could cost $1 trillion to $3 trillion** in lost output annually by 2030, with poor countries bearing the brunt of those costs.

- **Medical costs from ABR infections can top more than $29,000 per patient**, and the death rate for patients with ABR infections is twice as high as patients without an ABRI.

- **Most AMR deaths by 2050 will occur in Africa and Asia**—over 4 million in each region. The estimated death toll for the rest of the world is lower but could still reach nearly 400,000 in Latin America and Europe.

Sources: Alliance for the Prudent Use of Antibiotics, Centers for Disease Control and Prevention, Council on Foreign Relations, Health Research Funding, The World Bank, World Economic Forum

“We need to change the way we use antibiotics. ... It’s pretty clear what needs to be done to address antibiotic and antimicrobial resistance. Now we just need to do it.”

Florian Boecker
PartnerRe

inform providers and the public about antibiotic resistance and appropriate antibiotic use.

Also in 2016, the Food and Drug Administration prohibited the use of some antibiotics for promoting livestock growth.

Insurers, too, have to take steps to combat the threat of AMR.

They need to model the potential impact of drug resistance on their business to be able to react in time, PartnerRe’s Boecker said.

“A well-diversified portfolio is helpful to build resilience to such a scenario. Also, reinsurance can help to mitigate the impact of AMR and to stay on top of the developments,” he said.

Insurers also have to work with the agricultural industry to clamp down on antibiotic use.

Otherwise, more frequent culling of livestock due to viral outbreaks could result in higher-than-expected losses from new and re-emerging diseases, Swiss Re’s Chiu said. “There could also be contamination of meat with AMR bacteria, increasing liability risk for the food industry.”

Insurers and reinsurers need to understand what liabilities those risks pose to their lines of business and then become active participants on the global stage in trying to reduce AMR risk, she said.

“Ultimately, it’s up to all of us to make sure that we don’t lose this important biological defense. Otherwise, the consequences for inaction can be very severe,” XL Catlin’s Maran said.

An increase in AMR could mean less effective loss mitigation typically achieved through the use of antimicrobials, he said. “In the future, if not already, this could have an effect on shorter tail classes impacted by AMR. For the longer tail classes, such as medical negligence liability, it has already been reported on, such as in the case of MRSA,” he said.

Boecker is optimistic that all stakeholders, including the insurance industry, will be able to react to the challenge AMR poses.

“We need to change the way we use antibiotics,” he said.

Improvements in health care, such as monitoring, reporting and digitalized epidemiology, along with new possibilities offered by genomic research and the untapped potential of antibiotic alternatives will provide stakeholders with the means to counteract the AMR threat, Boecker said.

“It’s pretty clear what needs to be done to address antibiotic and antimicrobial resistance. Now we just need to do it,” he said.

The challenge for the insurance industry will be getting ahead of the risk and developing appropriate solutions to address policyholders’ new and changing exposures.

“Even though antibiotics are inexpensive, as a society we should value them as the precious resources they truly are,” Aetna’s Knecht said.

“We would never administer chemotherapy for someone who doesn’t have cancer. Yet, we’re prescribing antibiotics to patients who don’t have a bacterial infection,” he said.

Multistakeholder collaboration, data analytics and information transparency will become increasingly important tools to combat the threat, Knecht said. BR

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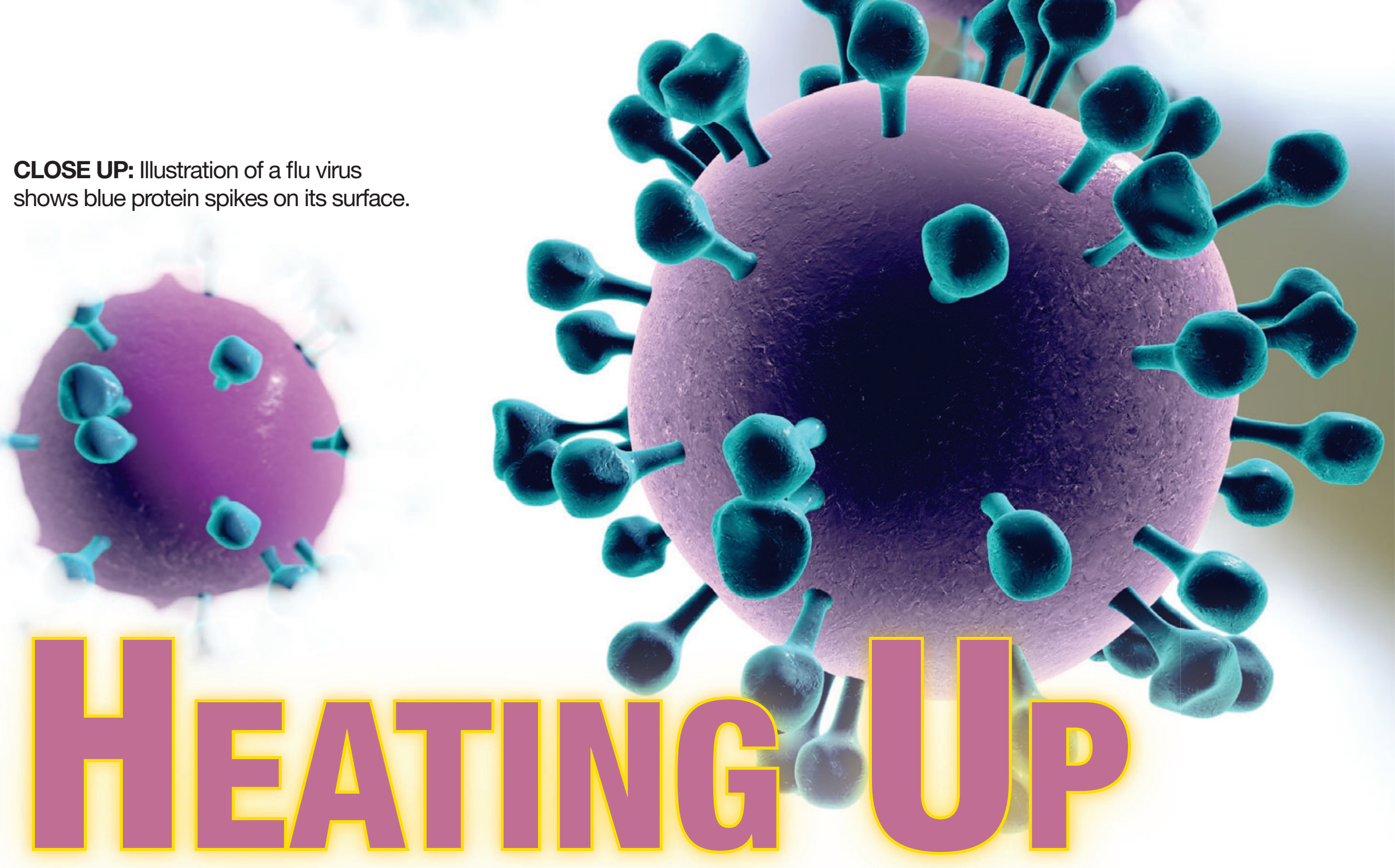

CLOSE UP: Illustration of a flu virus shows blue protein spikes on its surface.

Heating Up

Insurers are designing new products and parametric financing tools to prepare for an unhealthy dose of new epidemics that may arise from changing weather patterns.

by Lori Chordas

As the political and public debate over climate change continues, experts on both sides seem to agree on one thing: Changing weather patterns could have a devastating effect on human health.

This year's unusually warm temperatures already are causing one of the worst outbreaks of yellow fever in Brazil. According to recent reports, 1,257 cases of yellow fever were reported in the country between July 1, 2017 and May 2 of this year. Of those, 394 have died.

Cases of dengue fever across Europe are expected to quintuple in the coming years. Rising temperatures and humidity are creating ideal breeding grounds for mosquitoes to carry the potentially deadly virus.

Outbreaks of other climate-sensitive diseases such as malaria, Lyme disease, West Nile virus and cholera also could be exacerbated by extreme weather events.

There's already been a rise in some of those disease transmission in the United States. Between 2004 and 2016, more than 640,000 individuals contracted diseases from mosquitoes, ticks and fleas, largely caused by growth in suburban forests and a decline in predators.

The majority of those infections were caused by ticks. About 300,000 Lyme disease cases are reported in the United States each year, according to the Centers for Disease Control and Prevention.

Over the years, epidemics have had only a modest overall impact on the insurance industry, said Dr. Dave Rengachary, senior vice president and chief medical director at Reinsurance Group of America.

But insurers and reinsurers are preparing for the future. They're creating new products and parametric financing tools to mobilize funds to keep outbreaks at bay before they reach epidemic proportions.

Last year, African Risk Capacity launched a product to help Africa's sovereign nations evaluate their epidemic risk, as well as engage them in coordinated contingency planning and equip

Lori Chordas is a senior associate editor. She can be reached at *lori.chordas@ambest.com.*

Key Points

Describing the Symptoms: Population growth, urbanization and climate change will exacerbate the spread of infectious disease outbreaks.

Making a Diagnosis: New insurance products and risk financing tools are being created to help manage those events.

Finding a Cure: Insurers will need to change the way they think about epidemics and become more proactive and incorporate new sources of data in predictive analytical models.

governments with financial resources to respond to the first signs of national health outbreaks and epidemics.

The World Health Organization, Swiss Re, Munich Re and other private sector partners created a groundbreaking insurance vehicle that uses reinsurance and capital market tools to help mobilize funds during a disease outbreak.

At All Costs

Epidemic outbreaks are costly events.

A dengue fever epidemic in 2013 cost the global economy $8.9 billion, according to reports. A 2017 measles outbreak in Minnesota tallied about $1 million in costs. This year's U.S. flu epidemic will likely top $15 billion in lost productivity once the numbers are totaled, employment consulting firm Challenger, Gray & Christmas Inc. reports.

Outbreaks like those are forcing some insurers to dig deep into their pockets.

Reinsurance Group of America said the unusually severe winter influenza season in the United States affected its individual mortality rate and weakened its first-quarter results.

The flu has claimed the lives of more than 160 U.S. children so far this season, according to reports.

Other insurers have dodged a bullet from what has become one of the worst flu seasons in modern history.

UnitedHealth Group said the pervasive flu season didn't affect its first-quarter earnings as had been feared. The largest U.S. health insurer beat estimates by controlling medical costs and diversifying its revenue stream.

It's difficult for insurers to completely grasp the financial ramifications of epidemics. However, projections paint a bleak picture.

A relatively moderate flu outbreak similar to the 1957 and 1968 Asian flu pandemics could cost life insurers a few billion dollars, net of reinsurance, in additional death claims, said Steven Weisbart, senior vice president and chief economist at the Insurance

Through the Years

A look at some of the major epidemics over the centuries.

430 B.C.	Smallpox claimed the lives of more than 30,000 people in Athens, Greece, reducing the city's population by at least 20%.
1793	A yellow fever epidemic hit Philadelphia, killing one-tenth of the city's 45,000-person population.
1832	More than 3,000 New Yorkers died during a summer outbreak of cholera. Later that year, cholera claimed the lives of more than 4,000 people in New Orleans.
1906-1907	One of the biggest typhoid fever epidemics of all time broke out in New York, killing more than 10,700 people annually. Mary Mallon, known as "Typhoid Mary," spread the virus to about 122 New Yorkers while working as a cook on an estate and in a hospital unit.
1910	Manchuria was hit by the largest pneumonic plague outbreak in the 20th century; approximately 60,000 people died.
1916	America's worst polio epidemic resulted in more than 27,000 cases and more than 7,000 deaths.
1918-1919	A flu pandemic killed nearly 50 million worldwide, including 675,000 Americans.
1921	The United States recorded 206,000 cases of diphtheria and 15,520 deaths.
1957	An Asian flu outbreak killed 70,000.
1981-2005	U.S. AIDS cases topped 988,000 and resulted in more than 550,000 deaths during that time. Scientists identified the human immunodeficiency virus as the cause of AIDS in 1984.
2002-2003	More than 8,200 cases of Severe Acute Respiratory Syndrome, or SARS, including 774 deaths, were reported in South China, Hong Kong and 37 other countries.
2005	Twelve African countries, including Mali, were hit by yellow fever. There were 206,000 reported cases and 52,000 deaths.
2009	H1N1, also known as swine flu, hit more than 70 countries and claimed the lives of up to 203,000 people worldwide.
2010-2011	A cholera outbreak in Haiti claimed the lives of more than 8,000 residents of the Caribbean nation.
2013-2016	The West African Ebola virus epidemic was the most widespread outbreak of Ebola in history, with the first cases reported in Guinea in 2013. In early 2016, the World Health Organization reported 28,616 suspected cases and 11,310 deaths.
2015-2016	A Zika outbreak in Brazil spread to other parts of South America and North America and affected several islands in the Pacific and Southeast Asia.
2018	A flu epidemic in the United States hit 49 states and claimed the lives of more than 160 children as of early May.

Sources: Centers for Disease Control, CNN, Healthline.com, Live Science

Scientists and public officials are no longer focusing exclusively on a specific disease but rather on disease classes, and they're creating preliminary vaccinations for those classes based on genetic similarities.

Gisele Norris
Aon Health Care West

Information Institute, in a 2007 projection.

A more severe outbreak along the lines of the 1918 flu pandemic, which had the unusual characteristic of attacking people in the prime of their life unlike flu viruses that normally attack the very young and very old, could cause tens of billions of dollars in additional death claims, net of reinsurance, he said.

Weisbart hasn't updated his projections into current dollars. However, he said the economic toll on the industry today would be "very significant."

Losses largely depend on the type of sector that a company operates in, with mortality and morbidity as key components, said Doug Fullam, manager of life and health modeling at AIR Worldwide. "Other drivers include medical expenses, deaths, travel insurance, etc. Those losses would impact various (re)insurance companies across the insurance spectrum."

Relief Efforts

Almost every line of insurance is impacted by an epidemic in some way.

Life insurance and health insurance are hardest hit by epidemic-related losses, said Gisele Norris, managing director at Aon Health Care West.

Cost of Ebola treatment in the United States can range anywhere from $8,500 to $50,000 per day, according to reports.

Even a relatively mild Zika outbreak in the nation could cost more than $183 million in medical costs and productivity losses, according to Johns Hopkins Bloomberg School of Public Health researchers.

Potential implications from epidemics could also include workers' compensation, professional liability, medical malpractice, directors and officers, event cancellation and product liability, among others.

Nonproperty business interruption is becoming a popular tool to help cover epidemic-related losses, Norris said.

"While it's not designed for property exposure losses that we typically see with BI coverages, the products cover interruption of human capital resulting from outbreaks," she said.

Zurich Insurance Group offers a communicable disease suspension of operations clause in several of its property products. The clause provides business income coverage in the event that a public health official or governmental authority shuts down access to a health care facility due to a communicable disease or threat to the spread of a disease.

Some insurers are also launching products specifically targeted to epidemic risk.

Earlier this year TPL Life unveiled Pakistan's first epidemic-based insurance products to provide financial assistance for mosquito and waterborne illnesses such as malaria, dengue, yellow fever, cholera, hepatitis A and E and typhoid.

Out of Africa

The African Risk Capacity, in collaboration with partners, is creating an outbreak and epidemic parametric insurance product to establish a pool of cost-effective capital that can be rapidly deployed to allow countries to undertake early action as soon as an outbreak arises. The program is now being piloted in Guinea and Uganda.

ARC is a specialized agency of the African Union that provides parametric sovereign disaster risk insurance and other support, such as profiling of risk and contingency planning, to African nations.

Parametric insurance does not indemnify the pure loss, but before the event agrees to make a payment upon the occurrence of a triggering event. Therefore, the insurance pays claims on the pre-agreed triggers rather than on actual loss, said Robert Kwame Agyarko, lead adviser for the outbreaks and epidemics insurance program at ARC.

ARC's pilot has four disease pathogens: Ebola viral disease, the Marburg virus disease, meningococcal

Disease outbreaks over the past 40 to 50 years have shown that insurers "can handle and have been handling" epidemics with relatively limited impact. But a catastrophic event like the 1918 Spanish flu could potentially devastate the industry.

Steven Weisbart
Insurance Information Institute

meningitis and Lassa fever. Nearly 40 countries in Africa are at risk for an outbreak of one or more of those diseases.

The pilot builds on the agency's success with climate risk financing on the continent. Since 2012, ARC has paid out nearly $37 million to African governments to assist nearly 3 million people against drought impacts.

"In the pilot, we evaluate certain public health risks through a multidimensional self-assessment of a country's ability to prepare for and respond to an epidemic. We also put in motion contingency plans for potential outbreaks," Agyarko said.

The program can also analyze pathogen-specific outbreak scenarios and deliver advanced risk profiles of pilot countries to provide insight into the cost associated with the loss and response of epidemiological events.

ARC plans to launch its program to all African Union countries sometime next year.

Agyarko believes the program will help strengthen the nations' health systems by contributing to national capacities in preparedness through more accurate and disease-specific risk profiling, contingency and response planning. "We also hope to ensure unpredictable funding doesn't continue to prevent countries from adequately responding to epidemics timeously," he said.

Fill the Gap

Last year, the World Bank launched bonds to support its Pandemic Emerging Financing Facility.

PEF is designed to quickly channel funding to countries facing a major disease outbreak with pandemic potential.

This is the first time that World Bank bonds are being used to combat infectious diseases. It's also the first time a pandemic risk is being transferred to the market to cover low-income countries. Swiss Re Capital Markets is the joint structurer and sole book-runner for the cat bond transaction.

PEF was created in 2016 in response to the Ebola crisis in West Africa. After the disease silently spread through a small village in Guinea in December 2014, more than 28,000 people in several African nations were infected and 11,000 died before the public health emergency ended two years later, according to WHO.

The economic toll from that crisis in 2015 alone exceeded $30 billion, WHO reports.

One of the challenges the region faced in containing the virus was the lack of funds available early enough to resource-constrained countries and response agencies to help them fight an epidemic outbreak, said Nikhil da Victoria Lobo, head of Global Partnerships Americas at Swiss Re.

Six months after the initial cases of Ebola were reported, only about one-third of financial pledges were dispersed.

PEF seeks to fill the gap by providing much-needed surge funding for response efforts to prevent outbreaks from becoming deadly and costly pandemics, Lobo said.

It also includes an insurance window that combines funding from the insurance and reinsurance markets with the proceeds of World Bank-issued pandemic bonds, as well as a complementary cash window. The window initially provides $425 million for three years.

PEF covers six viruses that are most likely to cause a pandemic, including coronaviridae, such as SARS, and zoonotic diseases like Lassa fever. Financing to eligible countries is triggered when viruses reach a certain level of contagion, including number of deaths and the speed of disease spread, Lobo said.

"PEF isn't just about creating an insurance instrument that pays when epidemics occur, but it is also about providing incentives for governments to reduce their epidemic and pandemic exposures to drive down cost," he said.

In March, the World Bank said an outbreak of Lassa fever in Nigeria was likely an "eligible event" under the terms of the Class B pandemic swaps and pandemic catastrophe bonds that were issued to support the financing of PEF.

Spreading the Word

Insurance is only part of the mix.

Risk mitigation and loss prevention are the "single most important concepts" in halting the spread of disease, said Christopher Taylor, head of health care and financial institutions in middle market commercial for Zurich North America.

"We spend a lot of time helping our clients help themselves. We offer them advice and counsel through business continuity plans and best practices," he said.

Recent outbreaks are changing the way scientists and public officials think about and plan for epidemics.

They are no longer focusing exclusively on a specific disease but rather on disease classes, and they're creating preliminary vaccinations for those classes based on genetic similarities, Aon's Norris said.

"That's helping us become more nimble so we can prepare for the future because we aren't going to know what the next outbreak will be," she said.

The insurance industry is also being proactive rather than reactive, and insurers and reinsurers are seeking out new sources of data within emerging predictive analytical models, RGA's Rengachary said.

RGA is working with Toronto-based BlueDot to use big data, predictive modeling and data visualization to study how infectious diseases spread around the world.

"That allows us to deliver a holistic project of streamlining and data sources in ways that both our company and our clients can leverage anywhere from the enterprise level to risk stratification of an individual applicant," Rengachary said.

RGA also has a pandemic risk governance team that assesses and advises the company and its clients about emerging infectious disease risks. In addition, the company offers products in some markets to cover infectious diseases that have epidemic and pandemic potential, such as Ebola.

The Big Unknown

Population growth, urbanization, global transportation and a warming climate will exacerbate the future spread of disease.

Shifting animal habitats also will drive a rise in epidemic outbreaks.

Nearly three-quarters of all new, emerging and re-emerging diseases affecting humans are caused by microbes that originate in animals, the United States Agency for International Development reports.

"Insurers are keenly aware of those various factors and are keeping them in mind when modeling disease outbreaks," Rengachary said.

Insurers are also subject to regulatory measures regarding stress testing and capacity to withstand "tail events" caused by epidemics and pandemics, he said. "A strong reinsurer with dedicated resources to support life and living benefit markets can be an important partner for client companies when modeling and assessing the impact of an epidemic."

Insurance is an integral part of epidemic preparation and response, ARC's Agyarko said.

"The industry now has an advantage because we're starting off with a better understanding and preparedness of risk for that response," he said. "From what we've seen so far there's a need to offset some of the risk and countries will increasingly start to look at innovative ways of financing the risk and getting assets to do that. Insurance is part of that."

Crisis management and communication also need to be part of the mix. "Misinformation or lack of information can be potentially dangerous, and panic can be as bad as a disease itself or even worse," Norris said.

Disease outbreaks over the past 40 to 50 years have shown that insurers "can handle and have been handling" epidemics with relatively limited impact, III's Weisbart said. However, he fears a catastrophic event like the 1918 Spanish flu could potentially devastate the industry.

One of the things that makes future epidemics so difficult to project is that they're so diverse, Weisbart said. "Two reasons why the Spanish flu pandemic was so catastrophic for the industry was that it was much more deadly than any other influenzas in the past and it predominantly hit people in the prime of their lives when, if it occurred today, they would be covered under individual and group plans," he said.

Preparing for future outbreaks can't be done in a silo, Weisbart said. "Instead, we need collaborative efforts with other industries, governments and organizations like the World Bank that have different knowledge and expertise in this area," he said. "That will allow us to jointly support countries around the world to halt the spread of epidemics." BR

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Looking

The medical community is studying individuals' genomes to not only cure diseases but also assess and prevent illnesses before they occur.

by Dr. Bill Monday

Medicine, including insurance medicine, is becoming increasingly personalized, homing in on the individual. It's exciting, it's challenging and in some ways like a roller coaster ride with ups and downs, thrills and a few curves along the way.

Innovation, big data and disruptors are favored buzzwords at the moment and they all apply to medicine, too. Innovation is particularly evident in personalized medicine and genetics where laboratory advances are now allowing this technology to become more affordable and impactful. Big data is allowing scientists to collate and interpret information which, in turn, is leading to novel approaches of assessing, forecasting and managing risk. Health data is being collated by nontraditional players, too, and there is a merging of health data with biopsychosocial data with fascinating opportunities.

Personalized, or precision medicine as it is also known, is grouping patients together based on the risk of disease or response to treatment using medical diagnostic tests and techniques. For instance, it recently was reported that diabetes is now thought to be subdivided into five subsets, whereas for decades we have thought of it as only Type 1 or Type 2. Cancer is a particularly fine example where precision medicine is making an impact. By studying a person's genome, their immune system, and the particular mutations causing cancerous cells, the oncologist can now use targeted or immunotherapy to treat specific cancers. This form of cancer treatment is more refined with better outcomes than the older one-size-fits-all approach. While it is not for every cancer patient, this approach has had a significant impact in certain leukemias, lymphomas and is beginning to make inroads into cancers such as melanoma and lung cancer. Because historically lung cancer and advanced melanoma carried a poorer prognosis, any gains here are very welcome. Such improvements in overall survival, including long-term survival, are beginning to be evident which in turn, can be used at the underwriting stage to offer improved ratings. Governments are also closely following this technology and as the price of genome testing comes down, it is anticipated that every new cancer patient in the U.K. will have genome testing within the

Best's Review contributor **Dr. Bill Monday** is chief medical officer at Pacific Life Re. He can be reached at *bill.monday@pacificlifere.com*.

Within

next five years, not only to aid the use of precision medicine but also to understand the genetics behind cancer.

As noted above, precision medicine is running alongside advances in genetics. Rather than just homing in on only the genes, genomics uses whole genome sequencing or GWAS (Genome Wide Association Studies) to look at a person's entire chromosomal makeup. The genome consists of three billion base pairs or 200 gigabytes of data. The 1000 Genomes project is a study following 1,700 patients and contains 200 terabytes of data. While we have experience in underwriting and assessing risk for disorders where there is a single gene error (monogenic disease), genomics is now looking at diseases where there are complex and multiple gene variants that may contribute to a person developing a disease or disorder. These are known as polygenic disorders and interpretation is made all the harder as there is often the need for environmental factors to be present (for instance, smoking) to trigger a condition such as cancer. In addition, having the genes does not necessarily mean you will develop to manifest the disease or disorder. This is known as penetrance. The higher the penetrance, the more likely you are to develop the disorder. Researchers are now assessing genomes for conditions such as diabetes and cardiovascular diseases, and providing polygenic risk scores to predict future disease susceptibility. Such scoring is beginning to be used in cardiac patients to predict early heart disease by looking at 182 genetic differences. This advancement in screening is promising as present screening misses patients who go on to have a heart attack. For example, it is a fact that 50% of people having a heart attack have normal cholesterol levels and so medicine needs to find ways to enhance screening. In the insurance industry, we have to understand how to use and interpret such polygenic risk scores and this journey has begun.

Key Points

The Situation: New technology is allowing the development of personalized medicine to make inroads in treating and preventing diseases.

Notable Change: Advances in science are moving medicine away from diagnose and treat to predict and prevent.

What's Ahead: Medical professionals will combine an individual's health data with data from smartphones and Fitbits to advise patients and cure and manage diseases.

Liquid Biopsies

Over the past several years, researchers along with advancing laboratory technology have managed to identify circulating DNA and cells shed by cancers into the bloodstream. Cancers require a blood supply and they do shed cells or fragments of cells into the circulation. This abnormal or mutated DNA from the cancer can now be detected from a blood sample (we are talking one to two cells in five billion). As it is a blood sample it is called a "liquid biopsy" versus actually collecting a physical piece of cancer with a biopsy needle. In January, there was an announcement that a screening liquid biopsy called CancerSEEK has been developed. It screens for mutations in 16 genes that often arise in cancer cells and eight proteins that are often released. This test screens for eight common cancers—ovarian, liver, stomach, pancreatic, esophageal, colorectal, lung and breast. Detecting these cancers at an early stage offers the best survival and there is, therefore, very keen interest here. For insurance medicine it could improve survival in these patients, result in less morbidity if cancers are detected at an early stage and could also mean that the percentage of cancers detected at an early stage could increase the need for critical illness cover. The accuracy of this test varies for the cancers being screened and will need further enhancement. While very specific, the test is not always very sensitive for picking up all cancers, especially if at an early stage. The above examples are just some of the ways advances in science are moving medicine away from diagnose and treat to predict and prevent which can only be beneficial.

> While we have experience in underwriting and assessing risk for disorders where there is a single gene error (monogenic disease), genomics is now looking at diseases where there are complex and multiple gene variants that may contribute to a person developing a disease or disorder.

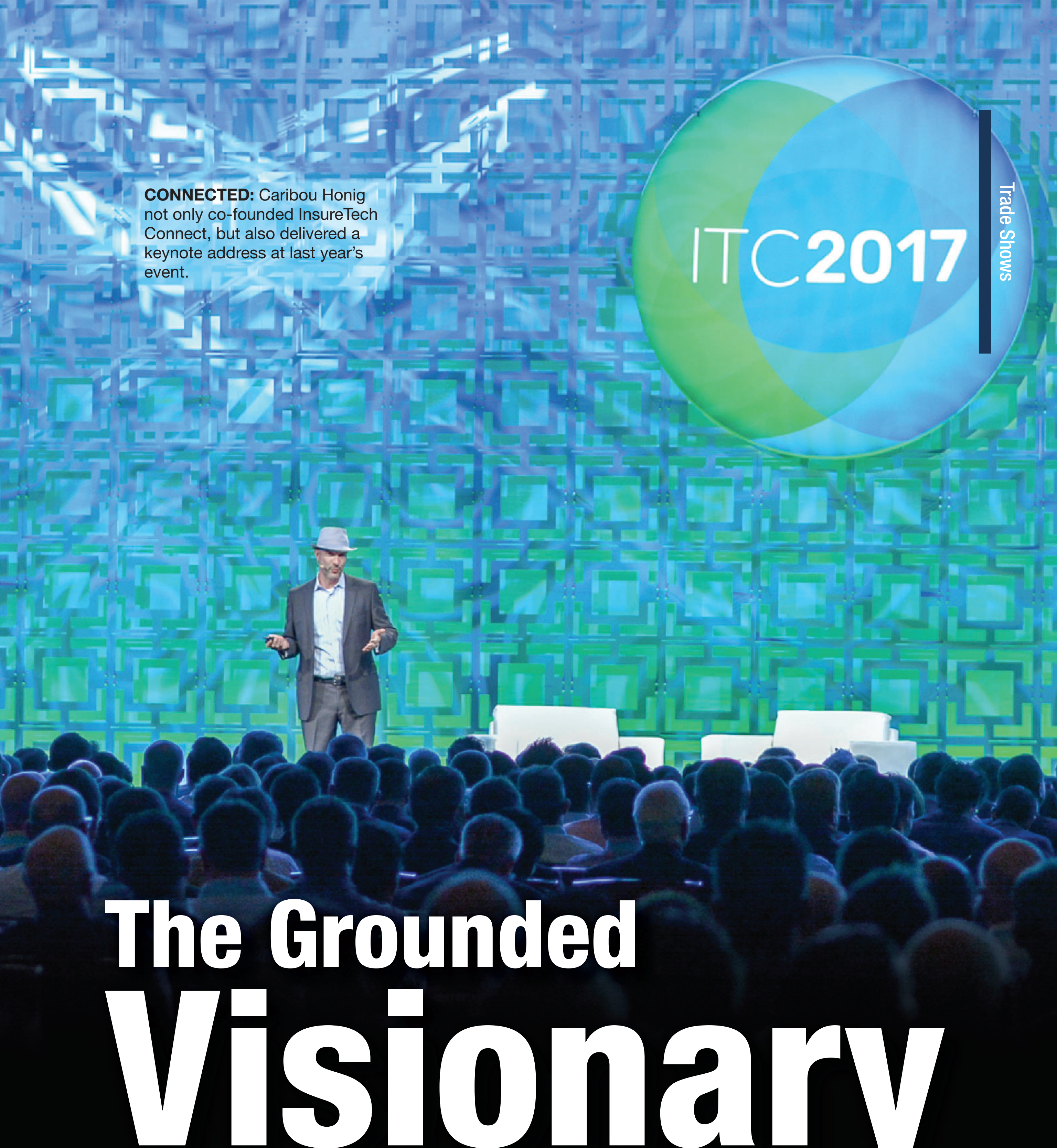
A New Science

Digital phenotyping is a developing multidisciplinary science collecting digital information typically from smartphones and devices such as Fitbits. The data can be active where a person actively inputs data or it can be passive where sensors are continually monitoring certain parameters. Some devices can be quite rude, vibrating and saying "move" if the person wearing it is stationary too long.

This kind of technology can be looked at in two ways—those who already have a medical condition or those who are healthy and are keen to maintain health. For those with existing health conditions, digital phenotyping is becoming very useful. Smart devices are now available that detect heart arrhythmias. ECG tracings can be relayed back to cardiologists in real time and captured for assessment and management. Glucose levels can be relayed back to health care professionals (or the patient) to enhance control. Similar monitors can automatically adjust doses of insulin via insulin infusion pumps in the so-called artificial pancreas. Enhanced diabetic control will reduce the potential complications of diabetes which in insurance medicine terms means lower risk and improved premiums.

For those who are generally well, the true impact of completing a set number of steps a day is still being fine-tuned with respect to the long-term impact on health. It might be more beneficial to do fewer steps but with more intensity for example. It might be more informative to look at how your heart rate changes as you exercise. This is once again, an example of where big data will be very beneficial. The above form of data is now being combined in digital platforms with novel data sources and it is becoming more fascinating but also challenging to understand the true mortality and morbidity impact. Two examples of using novel sources of data to assess risk are using facial-recognition technology to assess health and looking at your social media posts to predict mood and state of mental health. Facial-recognition technology and machine learning can assess your biological age, also known as physiological age, and measure how well or poorly your body is functioning relative to your actual age. The second example relates to the pictures you post on the web. Machine learning has found that if you have depression, your Instagram feed is more likely to feature bluer, grayer and darker photos with fewer faces, receive fewer likes and you are more likely to use a filter to convert a color photo to black and white.

Monitoring the advances happening in medicine and updating guidelines and ratings appropriately will be a benefit to those seeking insurance cover. BR



CONNECTED: Caribou Honig not only co-founded InsureTech Connect, but also delivered a keynote address at last year's event.

Photo courtesy of Caribou Honig

The Grounded Visionary

InsureTech Connect co-founder Caribou Honig took an unlikely path from credit cards to venture capital before finding a passion for insurtech—and event planning.

by Jeff Roberts

Jeff Roberts is a senior associate editor. He can be reached at *jeff.roberts@ambest.com*.

The curious fellow prefers gray fedoras. He appears as the top search result when you Google "stupid career decision." (He wrote a first-person essay on the subject, and proudly considers his search engine status "one of my points of vanity.")

Caribou Honig holds bachelor's degrees in physics and philosophy from Harvard, a law degree from the University of Virginia and an MBA from its Darden School of Business. But somehow, his "journey from credit card executive to boutique venture capitalist" has led him to the world of insurance.

And to the "event planning" business.

"So if there's any weddings or bar mitzvahs coming up, let me know," joked Honig, a former Capital One executive and co-founder of QED Investors, a venture capital firm focused on data-driven technology companies such as Credit Karma, SoFi and Avant.

The event planning he refers to is organizing InsureTech Connect, a Las Vegas-based trade show that Honig co-founded three years ago with tech investor Jay Weintraub. It bills itself as the "world's largest gathering of insurance leaders and innovators."

InsureTech Connect has become a focal point on the insurance calendar among innovative-minded insurance executives. The 2018 edition will be held Oct. 2-3 at the MGM Grand Las Vegas.

It is one of the highlights that punctuate the second half of 2018, attracting a diverse and burgeoning collection of venture capitalists, consulting firms, data scientists, state regulators, entrepreneurs seeking financing, and of course, executives from AIG, Axa, State Farm and Travelers among others.

"It needed to be founded because one venture capitalist needed it to exist when he couldn't find one," said Honig, 47, the chairman of InsureTech Connect. "That's where, being a little bit entrepreneurial and probably a lot bit foolish, I said, 'Maybe I should create it?'

"We designed it for a focus group of one. Me."

But that focus group is a profound one.

Honig's presence in the venture capital world is so large, his departure last year from QED Investors merited a story in the *Wall Street Journal.*

"What's unique about him is he's a visionary, but still grounded in reality," said Prashanth Gangu, a partner at Oliver Wyman, a management consulting firm. It sponsors the event. "In the insurtech space, people often are off in the clouds talking about blockchain and disconnected from reality. And then there are others who say the world isn't going to change.

"Having someone who is a visionary to push a group of people forward but also have his feet firmly planted in reality helps him be effective."

After a decade-long tenure with Capital One where he served as head of its underwriting, credit risk management and online marketing units, Honig delved into fintech.

But intriguing insurtech opportunities kept grabbing his attention, and soon he was focusing his vast intellectual curiosity on the space. He phased himself out of QED Investors to spend more time on it and other ventures.

Honig and Weintraub quickly discovered there were many others who shared his need for an insurtech event.

They anticipated no more than 1,000 attendees at the inaugural conference in 2016. More than 1,500 came. The number swelled to more than 3,500 last year, including attendees from nearly 50 countries and regulators from 23 states.

This year, they expect more than 6,000. About 250 speakers are planned and more than 50 sessions of panels and demos will be offered.

"It has quickly become an important event because it has catalyzed a bunch of pent-up energy and given a platform to showcase a lot of great ideas in an industry that is short on innovation and talent in some respects," said Matt Leonard, a partner at Oliver Wyman. "And it has brought together a lot of people who were struggling to connect in the past.

"There is a lot of excitement and inspiration, and companies are starting to believe they can change themselves or find sorely needed capabilities and partners."

One speaker at this year's event might be Honig himself, who says he was named Caribou after the northern Maine town where he was

Key Points

Tough Ticket: The first InsureTech Connect in 2016 drew 1,500 attendees. The 2018 event is expected to draw more than 6,000.

Themes of 2018: The evolving dynamic between startups and legacy insurers, the blurring of the lines separating insurtech and fintech and the increased role for application programming interfaces are the industry's top themes.

Crucial Time: The next 24 months will be a critical period for insurers as the industry transforms digitally and through talent recruitment.

"I'm fascinated by change. When I was at Capital One, the thing which inspired me—I certainly didn't grow up saying I wanted to market credit cards—was the crusade that the company was on to transform industries through the power of data."

Caribou Honig
InsureTech Connect

conceived. It's actually his middle name—Stephen is his first name—but he prefers Caribou.

"I grew up in upstate New York, so I'm lucky not to be named Schenectady," he said.

He donned his fedora to block out the stage lights at the 2016 and 2017 events to deliver keynote addresses. The highlights of his speeches were widely reported in industry media.

The Richmond, Virginia-based Honig sees his mission as two-fold: "Read the tea leaves where the insurtech sector is headed and shine a spotlight on that" and introduce an unlikely cross-section of professionals to each other who normally would not meet.

The disparate groups at the event aim to disrupt the industry, find a niche—or in the case of legacy carriers—incubate or acquire data-driven innovation with the startup ethos and culture.

And mergers and acquisitions have only increased in the space.

The number of insurtech deals climbed 39% last year compared to 2016, according to CB Insights. The total value of the deals rose 32% to $2.3 billion.

The goal of insurtech is simple, Honig says: Drive change by reducing friction, lowering costs and increasing transparency.

"I'm fascinated by change," he said. "When I was at Capital One, the thing which inspired me—I certainly didn't grow up saying I wanted to market credit cards—was the crusade that the company was on to transform industries through the power of data. That is invigorating. It started with credit cards but moved on from there.

"It has quickly become an important event because it has catalyzed a bunch of pent-up energy and given a platform to showcase a lot of great ideas in an industry that is short on innovation and talent in some respects."

Matt Leonard
Oliver Wyman

"I'm an optimist in my heart when it comes to the impact of technology as a net good for the human condition. I am enthralled with innovators."

And some in the industry seem enthralled with him.

"He's a Renaissance man," Leonard said. "He's got a really thoughtful perspective on what it takes to change an industry and on what a sound business plan could look like. He's quite ably applying some of the lessons learned from other sectors to what the possibilities are in insurance."

The evolving dynamic between startups and established insurers will be one of the key themes as the calendar marches toward 2019, Honig says.

At last year's event, he framed it as a great confrontation between the two sides. While he still views it that way, he now wonders if victory will be determined by collaboration or acquisition.

"One of the questions I like to ask is: Am I trying to be a part of your supply chain or am I trying to have you be a part of my supply chain?" Honig said. "The winner may be determined by who best assimilates, which may mean partnerships or acquisitions, the capabilities of the insurtechs."

Other key themes will be a blurring of the lines separating insurtech and fintech and the increased role for application programming interfaces for both incumbents and startups.

"We're at the beginning of a movement to API-ify the insurance stack," Honig said of the set of instructions and standards that programmers can use to create software and interact with outside systems.

In fact, he's so convinced of their emerging importance, he is creating a library of insurance-related APIs so they can be easily found and catalogued.

Honig views the next 24 months as a critical period for insurers as the industry transforms in the digital world and with the new breed of talent it is recruiting.

Organizations that are "serious have to look at it as a complete transformation, everything from your infrastructure, to thinking about how business models may change over the next 10 years, to the talent and culture, and operate in that regard," he said.

The industry's drive to enhance engagement with customers also will continue to be a much-discussed topic. Or as Honig puts it, the toothbrush versus the dentist visit argument. The toothbrush equals daily engagement. The dentist visit equates to a biannual event that is necessary but not always pleasant.

"I come down on the dentist visit," he said. "I worry that trying to build a better toothbrush in insurance may be a fool's errand."

Honig is certain that people don't want fitness tips or driving lessons from their insurers.

"I don't want my insurance company telling me to slow down," he said.

Other pertinent themes include artificial intelligence—Honig is quite bullish on it enhancing back office efficiency more than underwriting—blockchain technology and threats to the industry from tech giants such as Google and Amazon.

Although Honig had not yet decided if he would again address the audience from the InsureTech Connect stage, he was sure of one thing.

If he does, he will be wearing his signature fedora.

"When you're as bald as I am, it's kind of important," Honig said. "It's actually functional. It's not just all style."

ACORD Connect 2018

InsureTech Connect is not the only data-focused innovation trade show in the second half of 2018.

More than 400 attendees are expected Oct. 10-11 at ACORD Connect 2018 in New Orleans.

ACORD (Association for Cooperative Operations Research and Development) is an organization that develops industry standards for data acquisition and use among insurers and related companies.

ACORD Connect 2018 will focus on IT strategy, customer experience, emerging technology and data, analytics and business intelligence.

"We will continue to see the advancement of artificial intelligence and machine learning industry-wide over the next couple of years," said ACORD's Tanya Krochta, senior vice president and chief administrative officer, and Malou August, vice president, standards and membership. They responded to written questions. "The ability to leverage AI and machine learning will create more efficiencies for established insurance companies, while reducing costs dramatically, especially related to back-office services."

One of the highlights of the event will be the presentation of the 2018 Global Insurance Marketplace Study, which will leverage 10 years of data across more than 8,500 insurers to examine the strategies needed to succeed in specific markets.

"The biggest challenge the insurance industry faces is one we have always faced, and that is adoption," said Krochta and August. "There is so much more available to the industry to make our processes and business easier. We need to ensure that we are adopting technologies and standards that can communicate with each other so we can avoid back-office issues that would negate the advancements we are making." BR

Best's Calendar: Trade Shows/Conferences

AGENTS AND BROKERS

Event	Date	Location	Facility
Les Rendez-Vous de Septembre	Sept. 8-13	Monte Carlo, Monaco	Hotel Fairmont Monte-Carlo
American Agents Alliance Convention & Expo	Sept. 20-23	Palm Desert, Calif.	JW Marriott Desert Springs Resort & Spa
WSIA Annual Marketplace	Sept. 23-26	Atlanta	Atlanta Marriott Marquis/Hyatt Regency Atlanta
TMPAA Summit	Oct. 22-24	Scottsdale, Ariz.	Westin Kierland Resort

CAPTIVES AND ALTERNATIVE RISK

Event	Date	Location	Facility
Bermuda Captive Conference	June 10-13	Southampton, Bermuda	Fairmont Southampton Resort, Bermuda
VCIA Annual Conference	Aug. 7-9	Burlington, Vt.	DoubleTree by Hilton Hotel Burlington
Cayman Captive Forum	Nov. 27-29	Grand Cayman	The Ritz-Carlton

INSURANCE

Event	Date	Location	Facility
IASA Annual Educational Conference and Business Show	June 3-6	Nashville, Tenn.	Gaylord Opryland Resort & Convention Center
A.M. Best's 2018 Reinsurance Market Briefing - Zurich	June 6	Zurich	FIFA Museum AG
IAIP Annual Convention	June 7-9	St. Louis	St. Louis Union Station
ACE America's Claims Event	June 25-27	Austin, Texas	JW Marriott Austin
A.M. Best's 2018 Reinsurance Market Briefing - Les Rendez-Vous de Septembre	Sept. 9	Monte Carlo, Monaco	Hermitage Hotel
NAMIC Annual Convention	Sept. 23-26	San Antonio	Henry B. Gonzalez Convention Center
A.M. Best's 2018 Insurance Market Briefing - Germany	Sept. 27	Cologne, Germany	Hotel Pullman Cologne
InsureTech Connect	Oct. 2-3	Las Vegas	MGM Grand

Best's Calendar: Trade Shows/Conferences (cont'd)

ACORD Connect	Oct. 10-11	New Orleans	JW Marriott
National Insurance Conference of Canada	Oct. 10–12	Ville de Gatineau, Quebec	Hilton Lac-Leamy
CPCU Society Annual Meeting	Oct. 13-16	San Diego, Calif.	Manchester Grand Hyatt San Diego
PCI Annual Conference	Oct. 28-30	Miami	Fontainebleau
A.M. Best's 2018 Insurance Market Briefing - Europe & Methodology Review Seminar	Nov. 6	London	etc.venues St Paul's

LIFE/HEALTH

Event	Date	Location	Facility
AHIP Institute & Expo	June 20-22	San Diego	San Diego Convention Center
NAHU Annual Convention	June 23-June 26	Kansas City, Mo.	Sheraton at Crown Center
HFMA's ANI 2018	June 24-27	Las Vegas	Venetian-Palazzo Sands Expo
SOA Health Meeting	June 25-27	Austin, Texas.	Hilton Austin
NALC Biennial National Convention	July 16-20	Detroit	Cobo Center
LOMA Annual Conference & Conferment	Sept. 5-7	Vancouver, British Columbia	Fairmont Hotel Vancouver
NAIFA Performance + Purpose Annual Conference	Sept. 13-16	San Antonio	Henry B. Gonzalez Convention Center
ACLI Annual Conference	Oct. 7-9	Washington, D.C.	Renaissance Washington, DC Downtown Hotel

Best's Calendar: Trade Shows/Conferences (cont'd)

SOA Annual Meeting & Exhibit	Oct. 14-17	Nashville, Tenn.	Music City Center
NOLHGA Annual Meeting	Oct. 18-19	Seattle	Grand Hyatt
LIMRA Annual Conference	Oct. 28-30	New York	New York Marriott Marquis
NAILBA Annual Meeting	Nov. 1-3	Orlando, Fla.	Gaylord Palms Resort and Convention Center

RISK MANAGEMENT

Event	Date	Location	Facility
PRIMA Annual Conference	June 3-6	Indianapolis, Ind.	Indiana Convention Center
AIRMIC Conference	June 11-13	Liverpool, England	The Arena and Convention Centre Liverpool
ARIA Annual Meeting	Aug. 5-8	Chicago	Chicago Marriott Downtown
RIMS Canada	Sept. 23-26	St. John's, Newfoundland and Labrador, Canada	Mile One Centre
URMIA Annual Conference	Sept. 29-Oct. 3	Salt Lake City, Utah	Grand America Hotel
ASHRM Annual Conference & Exhibition	Oct. 7-10	Nashville, Tenn.	Music City Center
IRMI Construction Risk Conference	Nov. 4-7	Houston	Royal Sonesta Houston

WORKERS' COMPENSATION

Event	Date	Location	Facility
SAFETY 2018 – ASSE Professional Development Conference & Exposition	June 3-6	San Antonio	Henry B. Gonzalez Convention Center
WCCP Claims Management & Leadership Conference	June 10-13	Bonita Springs, Fla.	Hyatt Regency Coconut Point Resort and Spa
SHRM Annual Conference & Exposition	June 17-20	Chicago	McCormick Place
SEAK Annual National Workers' Compensation & Occupational Medicine Conference	June 20-22	Hyannis, Mass.	The Resort and Conference Center at Hyannis
DMEC Annual Conference	Aug. 6-9	Austin, Texas	Hilton Austin
WCI Annual Workers' Compensation Educational Conference & 30th Annual Safety & Health Conference	Aug. 19-22	Orlando, Fla.	Orlando World Center Marriott
SIIA National Educational Conference & Expo	Sept. 23-26	Austin, Texas.	JW Marriott Austin
IAIABC Convention	Oct. 1-4	Williamsburg, Va.	Williamsburg Lodge
National Workers' Compensation & Disability Conference	Dec. 4-7	Las Vegas	Mandalay Bay

Best's Special Report Reviews the Impact On Insurers of the Potential Expiration of TRIPRA

Best's Special Report (Excerpt): Insurers Adjust to Changing Terrorism Risk Landscape (April 12, 2018)

The nature of terrorist attacks has changed markedly. In recent years, we have witnessed an increase in "lone wolf" attacks, designed less to destroy property but still maintaining the goal to inflict large numbers of deaths and injuries. Many attacks are centered in locations where people congregate—concerts in Paris, Manchester, and Las Vegas; a nightclub in Orlando—but there are new threats as well. The scope of cyber threats will continue to evolve over the foreseeable future. Insurers need to be prepared for a wide range of potential events, including nuclear, biological, chemical, and radiation (NBCR) attacks. What's more, the FBI's recent announcement that Russian hackers had penetrated some of the United States' most sensitive infrastructure facilities points to the growing likelihood of a cyber terror event, while insurers continue to search for clarity in peril definitions.

Given the dramatic shift in the landscape of terrorism risk, insurers with significant exposures to terrorism are already contemplating the expiration of the Terrorism Risk Insurance Program Reauthorization Act (TRIPRA) at the end of 2020. Longer-term policies may have to take into account the potential termination of the federal backstop in the future.

BEST'S SPECIAL REPORT
Our Insight, Your Advantage.
Terrorism

Issues Review
April 12, 2018

Insurers Adjust to Changing Terrorism Risk Landscape

Stress testing, limits management, and reinsurance are critical to managing terrorism risk

The nature of terrorist attacks has changed markedly. In recent years, we have witnessed an increase in "lone wolf" attacks, designed less to destroy property but still maintaining the goal to inflict large numbers of deaths and injuries. Many attacks are centered in locations where people congregate—concerts in Paris, Manchester, and Las Vegas; a nightclub in Orlando—but there are new threats as well. The scope of cyber threats will continue to evolve over the foreseeable future. Insurers need to be prepared for a wide range of potential events, including nuclear, biological, chemical, and radiation (NBCR) attacks. What's more, the FBI's recent announcement that Russian hackers had penetrated some of the United States' most sensitive infrastructure facilities points to the growing likelihood of a cyber terror event, while insurers continue to search for clarity in peril definitions.

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Government Backstop Is an Important Consideration

In late 2002, the Terrorism Risk Insurance Act (TRIA) was passed as a government backstop to address the difficulty that insurers were experiencing managing this exposure. The 9/11 attacks led to an availability and affordability crisis for those companies in need of terrorism risk insurance, before they could move forward with their commercial property development projects and satisfy the requirements of their commercial lending partners. Addressing these needs had—and continues to have—broad implications for economic growth and development in the US.

The reasons for TRIA were two-fold: (1) to ensure the widespread availability and affordability of P/C insurance for certified acts of terrorism in the US, and (2) to help the private markets stabilize and build capacity, to eventually facilitate private market solutions rather than government intervention.

The current version of TRIPRA is set to expire on December 31, 2020. The lack of permanency and the decline in protection provided to the (re)insurance industry at each TRIPRA renewal remains a major insurance industry concern. As we approach 2020, this situation is becoming particularly meaningful for the large and medium-sized carriers due to their potential reliance on this financial backstop (**Exhibit 1**).

Insurers with large balance sheets typically have higher risk appetites for trophy buildings in Tier 1 cities. For insuring such high value properties and to manage concentration risk, these large insurers would consider a government backstop an important component of their risk management.

A.M. Best data shows that small (and even medium-sized) insurers are unlikely to amass sufficient gross losses to satisfy the $160 million program trigger in 2018 ($180 and $200

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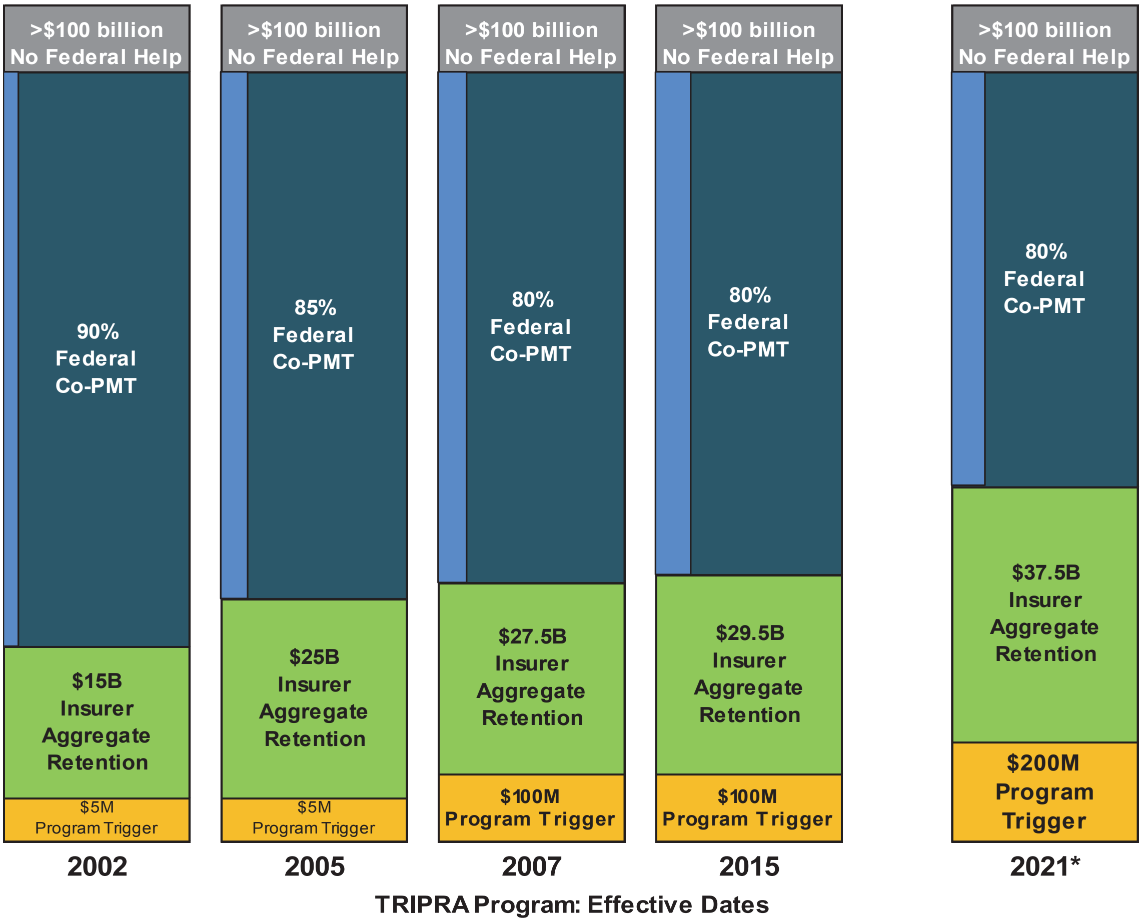
A.M. Best data shows that small (and even medium-sized) insurers are unlikely to amass sufficient gross losses to satisfy the $160 million program trigger in 2018 ($180 and $200 million in 2019 and 2020, respectively). According to A.M. Best research, the smaller insurers are more concentrated in Tier 3 locations and thus will not have an aggregate oversized Tier 1 exposure (**Exhibit 2**). Given their smaller size and less room for error or government backstop, establishing a conservative risk appetite backed by third-party reinsurance and concentration limits become critical for these insurers.

Private Reinsurance Markets Offer Risk Transfer Options

Because of the absence of a large-scale terrorist attack and the general softness in the reinsurance market for catastrophe risk, prices for terrorism risk have decreased in recent years. However, the decreases appear to be flattening, given that, following a very active hurricane and wildfire season in 2017, reinsurers have not gotten the price increases they had anticipated for natural

Exhibit 1

Terrorism Risk Insurance Act: Changes to Participation Layers



*Anticipated

Definitions:

Program Trigger (yellow): Minimum amount of aggregate industry insured losses resulting from an act of terrorism that must occur in a calendar year before any federal payments are made.

Insurer Aggregate Retention (green): Payments made by the federal government subject to recoupment through policyholder surcharges.

Federal Co-Payment: Payments made by the federal government but not subject to recoupment from policyholders.

Insurer Co-Payment: Payments made by insurers but not subject to recoupment from policyholders.

Note: Not graphed to scale.

Source: US Department of the Treasury, Federal Insurance Office

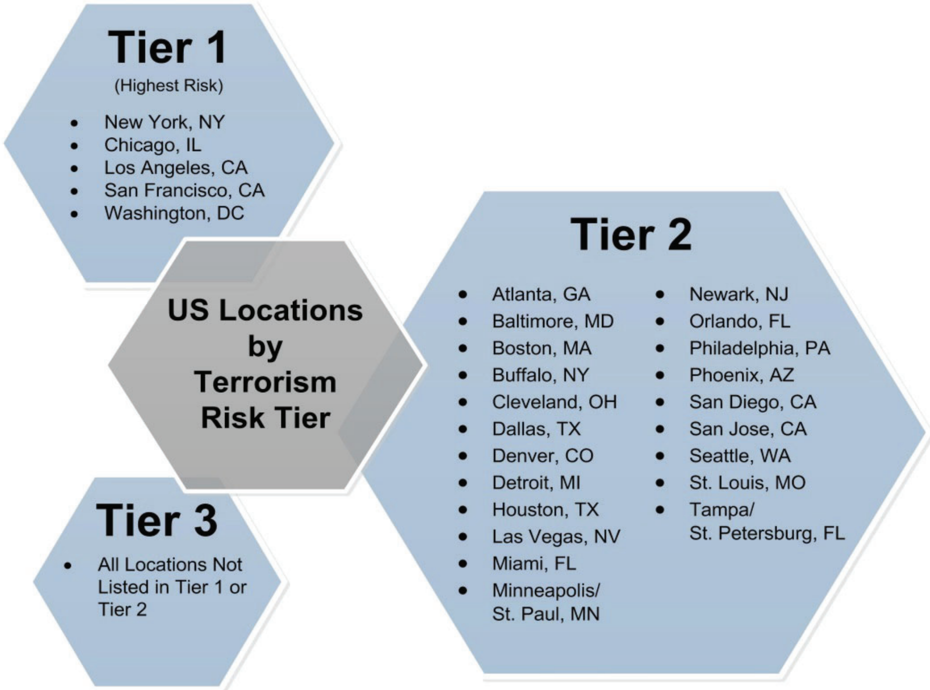
catastrophe risk. Most U.S. insurers typically buy reinsurance to cover them until the TRIPRA retention kicks in and until after the TRIPRA retention is exhausted. Demand for reinsurance may rise, to minimize insurers' participation in the event of an attack when TRIPRA is triggered.

Although the market for natural catastrophe bonds has been accepted by capital market investors, terrorism bonds are conspicuous by their absence. When FIFA hosted the World Cup in Germany in 2006, it undertook a $260 million terrorism risk securitization, as sponsors were concerned about event cancellation. Investors appear to be more comfortable with modeling property catastrophe bonds (which don't correlate with equity markets) than they are with terrorism risk models. For example, USAA has issued catastrophe bonds that are triggered by volcanoes or meteor strikes, but modeling terrorism poses more challenges than modeling natural disasters.

Stochastic Terrorism Models Are Not As Robust

Given that terrorism risk models are not as well-developed as natural catastrophe or market risk models, insurers should approach such models with a healthy dose of analytical skepticism. Up-to-the-minute data on market risks such as equity returns and interest rates—and through numerous crises—are easily available from reliable agencies such as the Federal Reserve and the U.S. Treasury,

Exhibit 2
US Terrorism Risk Tiers



Source: A.M. Best data and research

and have gone through rigorous scrutiny. Similarly, we have a wealth of continually updated data about natural catastrophe models that have been tested by the numerous hurricanes, tornadoes and earthquakes occurring throughout the world.

Insurers are increasingly using deterministic scenarios to estimate the capital impact of events such as a two-, five-, or ten-ton truck bomb on target zones. More sophisticated insurers and reinsurers use stochastic models to assess the required capital at a number of confidence levels for pricing and underwriting decisions. Modeling firms have responded to the changing nature of risk by updating their models to reflect the frequency of attacks and potential target locations whose threat levels have increased. The models continue to focus more on property, using methodologies to estimate losses from workers' compensation based on the time of the attack, number of lives in the blast zone radius, and occupant location profiles (e.g., the number of occupants on a specific floor, distance of occupants from the exterior, distance from the blast zone).

Other aspects of these models (such as business interruption and other casualty losses) are still in the early stages of development, and we expect insurers to provide results of sensitivity tests and validation of their test results. Incidentally, catastrophe models focus on high-severity losses—not on losses due to incidents such as stabbings or insurance losses due to vehicles going into crowds.

Loss of Attraction and Denial of Access Policies Respond to Changing Threats

Many recent attacks have been lone-gunman type, which are virtually impossible to predict and are intended less to cause mass property damage than to inflict a maximum number of human casualties. The focus of attacks has shifted significantly from inflicting property damages and causing mass casualties, to primarily causing loss of human life. Active assailants now represent the single largest threat for terrorist activity in the U.S. and are being carried out with higher frequency, albeit less sophistication.

The take-up rates for terrorism risk coverage under TRIPRA are consistent with higher coverage for commercial multiperil policies, according to a recent data call by the National Association of Insurance Commissioners (NAIC). Some insurers also offer stand-alone terrorism policies with terrorism definitions, coverage triggers, and other terms that differ from the criteria of the U.S. Department of the Treasury, which has to officially certify an event as an act of terrorism. Some insurers have developed products that provide stand-alone terrorism coverage and cover damages due to denial of access and loss of attraction. Denial of access policies cover revenue loss for neighborhood businesses that cannot be accessed following an attack due to an imminent threat, inspections, or investigations. Loss of attraction could cover the loss of revenue to a business because of an attack at an attraction nearby—for example, hotels would be covered if a nearby tourist attraction was closed due to a terrorist event. Although these are typical extensions of business interruption cover, they provide more explicit cover for the impact of terrorism.

NBCR Events Are a Significant And Implicit Concern

Insurance coverage for nuclear, biological, chemical, and radiation events are a major concern for insurers since these attacks can cause so much damage in terms of liability. TRIA does not explicitly mention NBCR events as perils to be covered or excluded, and the general interpretation varies by state—if a state permits NBCR exclusions, an insurer may not have to provide the cover. Consortiums for NBCR risks have formed to address some of the gaps when insurers don't offer enough cover to address market needs.

Stress-testing for NBCR events is critical to P/C insurers that write workers' compensation, which has no statutory payout limits. For L/H insurers, an accumulation of risk could be very significant to their group life books of business, and the industry is currently in the early stages of working toward liability models for events such as an anthrax attack.

As with conventional terrorism, the key to managing exposure is through reinsurance and by limiting concentration through an active limit structure. Stress-testing and scenario models could help measure these exposures, although we expect a significant degree of conservatism in these assessments of risk.

Cyber Liability

On December 27, 2016, the U.S. Treasury issued guidance on stand-alone cyber liability insurance policies under TRIPRA, which clarified that, as state regulators introduce a new sub-line identified as cyber liability, these stand-alone cyber insurance policies are included under TRIPRA. However, even with this clarification, a high-severity cyber attack would be more of a concern from a casualty perspective than from a property perspective.

Cybersecurity has rapidly become a major component of commerce, domestic and international relations, risk management, and other related areas. Online identity theft cuts across all segments of the insurance industry. Breaching computer networks poses a threat to power grids, transportation systems, shipping facilities, water supply, and much more. As technology advances, so too do the techniques available to cyber-criminals. Technology also has become increasingly mobile, further adding to the challenge for insurers, law enforcement, and others to stay one step ahead.

Insurers Need to Manage Exposure Through Prudent Risk Management

Although TRIPRA could help minimize the loss impact on an insurer's capitalization, over-reliance on such a mechanism isn't a substitute for sound risk management. Reliance on a government-sponsored program is subject to political uncertainty and budgetary constraints. That said, uncertainty remains as to whether Congress will allow the program to lapse in December 2020—or, if it is renewed, what the triggers might be and the amount of the backstop if renewed.

Risk management with a view to managing terrorism risk exposure through careful limit setting that takes into account an insurer's capital, reinsurance options and TRIPRA remains critical. Small and medium-sized insurers may be more vulnerable, but they might not have the risk appetite for properties/risks with higher total insured values. In its ratings assessments, A.M. Best considers potential liquidity delays associated with receiving funding following an event, as well as an insurer's ability to manage its own terrorism risk profile.

Our assessment of enterprise risk management (ERM) emphasizes stress-testing for any insurer—big or small—with a significant exposure to terrorism risk, to ensure that, in the event of a terrorist attack, resources are adequate. We have also developed terrorism-related stress scenarios as part of the assessment of balance sheet strength. For insurers with material exposure to terrorism loss, we look at aggregate exposure, the number of insured locations, the concentration of exposures, the impact on capitalization and uncertainty about the government's long-term commitment to a federal backstop.
For more information on how we evaluate these concerns, please access The Treatment of Terrorism Risk in the Rating Evaluation on our website.

As the expiration of TRIPRA approaches, discussions on insurer preparedness will increase. When assessing an insurer's exposure to terrorism risk, we use our ERM evaluation, stress tests, and their relationship to capital, and expect insurers to use a similar process, as well as their analytical and experience-driven judgment, to manage terrorism risk. A.M. Best has already had several rounds of dialogue with insurers on this subject and is preparing to do more of the same during the latter part of this year. Those companies that rely heavily on TRIPRA should be prepared to present detailed plans to A.M. Best in the event TRIPRA isn't renewed. BR

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Annual Corporate Changes 2017

All companies listed are life/health or property/casualty insurers in the United States or Canada.

Life/Health

MERGERS

AmeriChoice of Connecticut Inc. (AMB# 060689), Hartford, Conn. This company was merged into Oxford Health Plans (CT) Inc. on July 1, 2016.

American Underwriters Life Insurance Co. (AMB# 008795), Phoenix. This company merged into Puritan Life Insurance Co. of America on Dec. 31, 2017.

Century Life Assurance Co. (AMB# 009124), Oklahoma City. This company merged into Puritan Life Insurance Company of America on Dec. 31, 2017.

Degree of Honor Protective Association (AMB# 006304), St. Paul, Minn. This company merged into Catholic Financial Life on June 27, 2017.

DLE Life Insurance Co. (AMB# 007623), Gretna, La. This company merged into Southland National Insurance Corp. on June 30, 2017.

Great Fidelity Life Insurance Co. (AMB# 006481), Plainfield, Ind. This company merged into Puritan Life Insurance Company of America on Dec. 31, 2017.

Health Net Insurance of New York Inc. (AMB# 011859), New York. This company merged into UnitedHealthcare Insurance Company of New York on May 10, 2017.

Humana Dental Concern Ltd. (AMB# 060182), Chicago. This company merged into The Dental Concern Inc. on Dec. 31, 2017.

Massachusetts Vision Service Plan (AMB# 064479), Boston. This company merged into Vision Service Plan Insurance Co., Ohio on Oct. 1, 2017.

MetLife Reinsurance Company of Delaware (AMB# 061732), Wilmington, Del. This company merged into Brighthouse Reinsurance Company of Delaware on April 28, 2017.

MetLife Reinsurance Company of South Carolina (AMB# 076820), Charleston, S.C. This company merged into Brighthouse Reinsurance Company of Delaware on April 28, 2017.

Mothe Life Insurance Co. (AMB# 006743), Gretna, La. This company merged into Southland National Insurance Corp. on June 30, 2017.

Polish Union of the United States of North America (AMB# 009816), Wilkes-Barre, Pa. This company merged into First Catholic Slovak Ladies Association of the United States of America on June 1, 2017.

Sparrow PHP (AMB# 064740), Lansing, Mich. This company merged into Physicians Health Plan on April 30, 2017.

Today's Options of Texas Inc. (AMB# 061790), Houston. This company merged into WellCare of Texas Inc. on Dec. 31, 2017.

United Concordia Dental Plans of Kentucky Inc. (AMB# 065702), Frankfort, Ky. This company merged into United Concordia Dental Plans Inc. on Nov. 15, 2017.

United Concordia Life and Health Insurance Co. (AMB# 006265), Harrisburg, Pa. This company merged into United Concordia Insurance Co. on Dec. 31, 2017.

Vision Services Plan Inc., Oklahoma (AMB# 064476), Oklahoma City. This company merged into Vision Service Plan Insurance Co., Ohio on July 1, 2017.

NAME CHANGES

American Phoenix Life and Reassurance Co. (AMB# 068152), Hartford, Conn. This company changed its name to Equitable National Life Insurance Co. on Jan. 31, 2017.

Aurigen Reinsurance Co. (AMB# 066889), Toronto. This company changed its name to PartnerRe Life Reinsurance Company of Canada on April 3, 2017.

Aurigen Reinsurance Company of America (AMB# 061745), Little Rock, Ark. This company changed its name to PartnerRe Life Reinsurance Company of America on April 12, 2017.

BCBSIL GP Insurance Co. (AMB# 062151), Chicago. This company changed its name to Illinois Blue Cross Blue Shield Insurance Co. on June 30, 2017.

BCBSOK Government Programs Insurance Co. (AMB# 062059), Tulsa, Okla. This company changed its name to Oklahoma Blue Insurance Co. on April 19, 2017.

BCBSTX Government Programs Insurance Company (AMB# 062134), Richardson, Texas. This company changed its name to Texas Blue Cross Blue Shield Insurance Co. on Sept. 14, 2017.

Colorado Choice Health Plans (AMB# 068945), Alamosa, Colo. This company changed its name to Friday Health Plans of Colorado Inc. on Aug. 8, 2017.

Commencement Bay Life Insurance Co. (AMB# 068406), Seattle. This company changed its name to Commencement Bay Risk Management Insurance Co. on March 24, 2017.

Commercial Travelers Mutual Insurance Co. (AMB# 007361), Utica, N.Y. This company changed its name to Commercial Travelers Life Insurance Co. on May 1, 2017.

Delaware Life Holdings LLC (AMB# 054044), Wilmington, Del. The name of this company was changed to Group One Thousand One LLC in 2017.

Evergreen Health Cooperative Inc. (AMB# 065169), Baltimore. This company changed its name to Evergreen Health Inc. on Jan. 18, 2017.

Fidelis SecureCare of Michigan Inc. (AMB# 064849), Troy, Mich. This company changed its name to Michigan Complete Health Inc. on April 3, 2017.

First MetLife Investors Insurance Co. (AMB# 006119), New York. This company changed its name to Brighthouse Life Insurance Company of NY on March 6, 2017.

First United American Life Insurance Co. (AMB# 009412), Liverpool, N.Y. This company changed its name to Globe Life Insurance Company of New York on Jan. 1, 2017.

Generation Life Insurance Co. (AMB# 007600), Jefferson City, Mo. This company changed its name to Lumico Life Insurance Co. on March 23, 2017.

Greek Catholic Union of the U.S.A. (AMB# 009807), Beaver, Pa. This company changed its name to GCU on May 31, 2017.

Group Health Cooperative (AMB# 064044), Seattle. This company changed its name to Kaiser Foundation Health Plan of Washington on Feb. 1, 2017.

Group Health Options (AMB# 064531), Seattle. This company changed its name to Kaiser Foundation Health Plan of Washington Options Inc. on Feb. 1, 2017.

The Health Plan of the Upper Ohio Valley Inc. (AMB# 064201), Wheeling, W.Va. This company changed its name to The Health Plan of West Virginia Inc. on June 1, 2017.

Healthcare Partners Nevada Inc. (AMB# 061907), Las Vegas. This company changed its name to DaVita Health Plan of Nevada Inc. on Jan. 15, 2017.

HealthMarkets Insurance Co. (AMB# 009066), Oklahoma City. This company changed its name to Tier One Insurance Co. on Jan. 3, 2017.

The Order of the Sons of Hermann in Texas (AMB# 068030), San Antonio. This company changed its name to Hermann Sons Life on July 5, 2017.

Central United Life Insurance Company (AMB# 006222), Little Rock, Ark. This company changed its name to ManhattanLife Assurance Company of America on May 1, 2017.

MetLife Insurance Company USA (AMB# 007330), Wilmington, Del. This company changed its name to Brighthouse Life Insurance Co. on March 6, 2017.

Montana Blue Government Programs Insurance Co. (AMB# 062149), Helena, Mont. The name of this company was changed to Montana Blue Insurance Co. on Oct. 10, 2017.

Allianz Life and Annuity Company (AMB# 068026), Atlanta. This company changed its name to Munich Re US Life Corp. on Sept. 5, 2017.

The Pharmacists Life Insurance Co. (AMB# 008946), Algona, Iowa. This company changed its name to Rx Life Insurance Co. on Sept. 27, 2017.

Renaissance Health Insurance Company of New York (AMB# 002682), Holbrook, N.Y. This company changed its name to Renaissance Life & Health Insurance Company of New York on Dec. 18, 2017.

The Savings Bank Life Insurance Company of Massachusetts (AMB# 006696), Woburn, Mass. This company changed its name to The Savings Bank Mutual Life Insurance Company of Massachusetts on July 26, 2017.

Securitas Financial Life Insurance Co. (AMB# 009068), Winston-Salem, N.C. This company changed its name to Genworth Insurance Co. on April 1, 2017.

ACQUISITIONS & OWNERSHIP CHANGES

Allianz Life and Annuity Co. (AMB# 068026), Minneapolis. This company was sold to Munich-American Holding Corp. on May 30, 2017.

American Phoenix Life and Reassurance Co. (AMB# 068152), Hartford, Conn. This company was sold to Equitable Life and Casualty Insurance Co. on Jan. 31, 2017. Concurrently, changing its name to Equitable National Life Insurance Co. and redomesticating from Connecticut to Utah.

American Progressive Life & Health Insurance Company of New York (AMB# 008411), White Plains, N.Y. This company was sold to WellCare Health Plans Inc. on April 28, 2017.

Canadian Premier Life Insurance Co. (AMB# 066801), Toronto. This company was sold to Securian Financial Group on April 1, 2017.

Colorado Choice Health Plans (AMB# 068945), Alamosa, Colo. This company was acquired by Friday Health Plans Inc. on June 1, 2017.

Dakota Capital Life Insurance Co. (AMB# 061688), Bismarck, N.D. This company was sold to US Alliance Life and Security Co. on Aug. 1, 2017.

Securitas Financial Life Insurance Co. (AMB# 009068), Winston-Salem, N.C. This company was sold to Genworth

Financial Inc. on April 1, 2017. Concurrently, changing its name to Genworth Insurance Co.

Granite Alliance Insurance Co. (AMB# 061748), Salt Lake City, Utah. This company was sold to Magellan Health Inc. on Feb. 7, 2017.

Harbor Health Plan (AMB# 064686), Detroit. This company was sold to Trusted Health Plans Inc. on Feb. 28, 2017.

HealthMarkets Insurance Co. (AMB# 009066), Oklahoma City. This company was sold as a shell to Aflac Inc. on Jan. 1, 2017.

Jefferson National Life Insurance Co. (AMB# 006475), Dallas. This company was sold to Nationwide Life Insurance Co. on March 1, 2017.

Jefferson National Life Insurance Company of New York (AMB# 061881), New York. This company was sold to Nationwide Life Insurance Co. on March 3, 2017.

Munich American Reassurance Co. (AMB# 006746), Atlanta. This company was sold to Munich-American Holding Corp. on May 30, 2017.

Pavonia Life Insurance Company of Michigan (AMB# 009129), Southfield, Mich. This company was sold to Southland National Holdings Inc. on Dec. 29, 2017.

Port-O-Call Life Insurance Co. (AMB# 007929), Dallas. This company was sold to Port Holdings Inc. on Nov. 21, 2017.

Resource Life Insurance Co. (AMB# 006176), Chicago. This company was sold as a shell to CDOC Inc. on March 27, 2017.

Rocky Mountain Health Maintenance Organization Inc. (AMB# 064312), Grand Junction, Colo. This company was sold to United HealthCare Services Inc. on March 1, 2017.

Rocky Mountain HealthCare Options Inc. (AMB# 064561), Grand Junction, Colo. This company was sold to United HealthCare Services, Inc. on March 1, 2017.

Rx Life Insurance Co. (AMB# 008946), Scottsdale, Ariz. This company was sold to Heritage Life Insurance Co. on Oct. 2, 2017.

SelectCare Health Plans Inc. (AMB# 064845), Houston. This company was sold to WellCare Health Plans Inc. on April 28, 2017.

SelectCare of Texas Inc. (AMB# 064744), Houston. This company was sold to WellCare Health Plans Inc. on April 28, 2017.

Today's Options of Texas Inc. (AMB# 061790), Houston. This company was sold to WellCare Health Plans Inc. on April 28, 2017.

Vibra Health Plan Inc. (AMB# 062053), Harrisburg, Pa. This company was sold to Capital Blue Cross on May 31, 2017.

Western Life Assurance Co. (AMB# 066802), High River, Alberta. This company was sold to Wawanesa Mutual Insurance Co. on July 1, 2017.

STATE ACTIONS

American Network Insurance Co. (AMB# 007362), Allentown, Pa. This company was placed in insolvent liquidation on March 1, 2017.

Evergreen Health Inc. (AMB# 065169), Baltimore. This company was placed in rehabilitation on July 31, 2017.

Penn Treaty Network America Insurance Co. (AMB# 006385), Allentown, Pa. This company was placed in insolvent liquidation on March 1, 2017.

DOMICILIARY CHANGES

American Phoenix Life and Reassurance Co. (AMB# 068152), Hartford, Conn. This company redomesticated from Connecticut to Utah on Jan. 31, 2017.

American Republic Corp Insurance Co. (AMB# 006906), Omaha, Neb. This company redomesticated from Nebraska to Iowa on Jan. 1, 2017.

5 Star Life Insurance Co. (AMB# 008069), Baton Rouge, La. This company redomesticated from Louisiana to Nebraska on Dec. 18, 2017.

Harleysville Life Insurance Co. (AMB# 006517), Harleysville, Pa. This company redomesticated from Pennsylvania to Ohio on Nov. 13, 2017.

Medico Corp Life Insurance Co. (AMB# 008350), Des Moines, Iowa. This company redomesticated from Nebraska to Iowa on Jan. 1, 2017.

Medico Insurance Co. (AMB# 003150), Omaha, Neb. This company redomesticated from Nebraska to Iowa on Jan. 1, 2017.

Munich Re US Life Corp. (AMB# 068026), Atlanta. This company redomesticated from Minnesota to Georgia on Dec. 11, 2017.

Omaha Health Insurance Co. (AMB# 060395), Schaumburg, Ill. This company redomesticated from Illinois to Nebraska on Feb. 22, 2017.

The Pharmacists Life Insurance Co. (AMB# 008946), Algona, Iowa. This company redomesticated from Iowa to Arizona on Sept. 27, 2017.

Port-O-Call Life Insurance Co. (AMB# 007929), Dallas. This company redomesticated from Arkansas to Texas on Nov. 16, 2017.

Primerica Life Insurance Co. (AMB# 006693), Boston. This company redomesticated from Massachusetts to Tennessee on Dec. 28, 2017.

Thrivent Life Insurance Co. (AMB# 009342), Minneapolis. This company redomesticated from Minnesota to Wisconsin on Nov. 29, 2017.

NEW COMPANIES in LIFE/HEALTH

L/H Company Name	AMB#	Domicile	Incorporated
APC Passe LLC	062240	Arizona	6/28/2017
Aetna Better Health of Washington Inc.	062232	Washington	1/13/2017
Aflac Reinsurance Co.	062242	Nebraska	9/22/2017
Arkansas Advanced Care Inc.	062244	Arkansas	6/28/2017
Arkansas Total Care Inc.	062236	Arkansas	7/3/2017
Banner Health and Aetna Health Plan Inc.	062227	Arizona	2/2/2017
Banner Health and Aetna Health Insurance Co.	062226	Arizona	2/2/2017
Clear Spring Health of Illinois Inc.	062238	Illinois	9/15/2017
Empower Healthcare Solutions	062235	Arkansas	2/5/2017
FGL US Holdings Inc.	046778	Delaware	5/19/2017

L/H Company Name	AMB#	Domicile	Incorporated
Forevercare Inc.	062241	Arkansas	6/14/2017
Jazz Reinsurance Co.	062196	Utah	0/0/2017
Lincoln Reinsurance Company of Vermont VII	062223	Vermont	2/16/2017
Missouri Chamber Federation Benefit Plan	062233	Vermont	10/27/2017
Mutual of Omaha Medicare Advantage Co.	062237	Nebraska	9/8/2017
NEXT Investors USHG LLC	046842	Delaware	11/15/2017
Oscar Garden State Insurance Corp.	062229	New Jersey	7/6/2017
Oscar Insurance Corporation of Ohio	062228	Ohio	2/17/2017
True Health of New Mexico Inc.	062239	New Mexico	9/22/2017
WellCare of Alabama Inc.	062234	Alabama	4/7/2017

PROPERTY/CASUALTY

MERGERS

Affirmative Insurance Company of Michigan (AMB# 013130), East Lansing, Mich. This company merged into Clarendon National Insurance Co. on Sept. 30, 2017.

AHC Insurance Co. (AMB# 012357), Wilmington, Del. This company merged with and into Technology Insurance Co. Inc. on Oct. 2, 2017.

Arch Mortgage Reinsurance Co. (AMB# 012319), Madison, Wis. This company merged into Arch Mortgage Assurance Co. on Dec. 31, 2017.

Athens Financial Insurance Co. (AMB# 014174), Oklahoma City. This company merged into American Resources Insurance Co. Inc. on March 31, 2017.

Calumet Equity Mutual Insurance Co. (AMB# 010059), New Holstein, Wis. This company merged into McMillan-Warner Mutual Insurance Co. on Oct. 1, 2017.

Clearfield County Grange Mutual Fire Insurance Co. (AMB# 004747), Clearfield, Pa. This company merged into Community Insurance Co. on Oct. 25, 2017.

Commercial Guaranty Insurance Co. (AMB# 002712), Wilmington, Del. This company merged into Commercial Guaranty Insurance Co. on Jan. 1, 2017.

Elements Property Insurance Co. (AMB# 022044), Tallahassee, Fla. This company merged into Avatar Property & Casualty Insurance Co. on May 15, 2017.

Frontier Mutual Insurance Co. (AMB# 000365), Lincoln, Ill. This company merged into Mount Carroll Insurance Co. on Jan. 1, 2017. Concurrently, changing its name to Frontier – Mt. Carroll Mutual Insurance Co.

Great Lakes Casualty Insurance Co. (AMB# 012080), Michigan. This company merged into Clarendon National Insurance Co. on Dec. 31, 2017.

Heartland Healthcare Reciprocal Risk Retention Group (AMB# 076455), Burlington, Vt. This company merged into Indiana Healthcare Reciprocal Risk Retention Group on Jan. 1, 2017. Concurrently, Indiana Healthcare Reciprocal Risk Retention Group changed its name to Tecumseh Health Reciprocal Risk Retention Group.

Holyoke Mutual Insurance Company in Salem (AMB# 000480), Salem, Mass. This company merged into COUNTRY Mutual Insurance Co. on Jan. 01, 2017.

MHA Insurance Co. (AMB# 003669), East Lansing, Mich., This company merged into ProSelect Insurance Co. on Dec. 31, 2017.

Middlesex Mutual Assurance Co. (AMB# 000608), Middletown, Conn. This company merged into COUNTRY Mutual Insurance Co. on Jan. 1, 2017.

Mount Beacon Insurance Co. (AMB# 022239), St. Petersburg, Fla. This company merged into Oakwood Insurance Co. on July 31, 2017.

Mountain States Mutual Casualty Co. (AMB# 000656), Albuquerque, N.M. This company merged into Donegal Mutual Insurance Co. on May 25, 2017.

Northbridge Commercial Insurance Corp. (AMB# 085767), Toronto. This company merged into Northbridge General Insurance Corp. on Jan. 1, 2017.

Texas Pacific Indemnity Co. (AMB# 002386), Dallas. This company merged into Pacific Indemnity Co. on Sept. 30, 2017.

Washington Casualty Co. (AMB# 011243), Maple Valley, Wash. This company merged into ProSelect Insurance Co. on Dec. 31, 2017.

NAME CHANGES

AmeriHealth Casualty Insurance Co. (AMB# 012357), Wilmington, Del. This company changed its name to AHC Insurance Co. on July 3, 2017.

AIG Structured Mortgage Insurance Co. (AMB# 014124), Greensboro, N.C. This company changed its name to Arch Structured Mortgage Insurance Co. on Jan. 31, 2017.

Alfa Specialty Insurance Corp. (AMB# 012333), Virginia. This company changed its name to Trexis One Insurance Corp. on Aug. 23, 2017.

Alfa Vision Insurance Corporation (AMB# 010042), Virginia. This company changed its name to Trexis Insurance Corp. on Aug. 23, 2017.

Ark Royal Insurance Co. (AMB# 013878), St. Petersburg, Fla. This company changed its name to Progressive Property Insurance Co. on April 1, 2017.

Coventry Insurance Co. (AMB# 011545), Warwick, R.I. This company changed its name to Greyhawk Specialty Insurance Co. on Oct. 24, 2017.

Cube Insurance Co. (AMB# 022418), Columbus, Ohio. This company changed its name to Verti Insurance Co. on Jan. 3, 2017.

Explorer American Insurance Co. (AMB# 000181), San Diego. This company changed its name to ICW National Insurance Co. on Feb. 6, 2017.

Farm Bureau New Horizons Insurance Company of Missouri (AMB# 013072), Jefferson City, Mo. This company changed its name to New Horizon Insurance Company of Missouri on July 17, 2017.

Farmers Alliance Mutual Insurance Co. (AMB# 001765), Coldwater, Mich. This company changed its name to Farmers Mutual Insurance Company of Michigan on March 14, 2017.

Fireman's Fund Insurance Company of Ohio (AMB# 020566), Columbus, Ohio. This company changed its name to Independent Specialty Insurance Co. on Jan. 30, 2017.

Indiana Healthcare Reciprocal Risk Retention Group (AMB# 076115), Burlington, Vt. This company changed its name to Tecumseh Health Reciprocal Risk Retention Group on Jan. 1, 2017.

Lone Star National Insurance Co. (AMB# 020573), Indianapolis. This company changed its name to Pan-American Casualty Co. on June 22, 2017.

Milwaukee Casualty Insurance Co. (AMB# 003548), Wilmington, Del. This company changed its name to Milford Casualty Insurance Co. on Aug. 28, 2017.

Mount Carroll Mutual Insurance Co. (AMB# 003823), Mount Carroll, Ill. This company changed its name to Frontier-Mt. Carroll Mutual Insurance Co. on Jan. 1, 2017. Concurrently, merging with Mount Carroll Insurance Co.

Mutual Insurance Company of Lehigh County (AMB# 004731), Allentown, Pa. This company changed its name to Community Insurance Co. on Oct. 25, 2017.

New Jersey Title Insurance Co. (AMB# 012442), Parsippany, N.J. This company changed its name to CATIC Title Insurance Co. on Sept. 12, 2017.

Nodak Mutual Insurance Co. (AMB# 000705), Fargo, N.D. This company changed its name to Nodak Insurance Co. on March 14, 2017.

Preferred Physicians Medical Risk Retention Group Inc. (AMB# 011056), Kansas City, Mo. This company changed its name to Preferred Physicians Medical Risk Retention Group a Mutual Insurance Co. on Jan. 1, 2017, converting from stock to a mutual company.

Property and Casualty Company of Omaha (AMB# 060695), Omaha, Neb. This company changed its name to Property and Casualty Company of Omaha and the Certificate of Authority was amended from a life insurance company to a property and casualty insurance company on Oct. 1, 2017. The company also assumed the legacy business from an affiliate, The Omaha Indemnity Co., through a reinsurance agreement on Oct. 1, 2017. As part of the transaction, Mutual of Omaha Insurance Co. provides a parental guaranty to the company's performance of its obligations regarding the reinsurance agreement.

Sompo Japan Fire and Marine Insurance Company of America (AMB# 002693), New York. This company changed its name to Sompo America Fire & Marine Insurance Co. on Jan. 1, 2017.

Sompo Japan Insurance Company of America (AMB# 003060), New York. This company changed its name to Sompo America Insurance Co. on Jan. 1, 2017.

Wellington Insurance Co. (AMB# 010826), Fort Worth, Texas. This company changed its name to Aventus Insurance Co. on May 9, 2017.

West River Insurance Co. (AMB# 013804), Sioux Falls, S.D. This company changed its name to West River Insurance Co. on May 24, 2017.

Western Financial Insurance Co. (AMB# 066506), Winnipeg, Manitoba. This company changed its name to Petline Insurance Co. on Jan. 1, 2017.

ACQUISITIONS & OWNERSHIP CHANGES

Affirmative Insurance Company of Michigan (AMB# 013130), East Lansing, Mich. This company was sold to Enstar Holdings (US) LLC on July 21, 2017.

Allied World Assurance Company (U.S.) Inc. (AMB# 012525), Wilmington, Del. This company was sold to Fairfax Financial Holdings Limited on July 6, 2017.

Allied World National Assurance Co. (AMB# 012526), Concord, N.H. This company was sold to Fairfax Financial Holdings Ltd. on July 6, 2017.

Allied World Specialty Insurance Co. (AMB# 012699), Wilmington, Del. This company was sold to Fairfax Financial Holdings Ltd. on July 6, 2017.

Allied World Surplus Lines Insurance Co. (AMB# 011719), Little Rock, Ark. This company was sold to Fairfax Financial Holdings Ltd. on July 6, 2017.

American Coastal Insurance Co. (AMB# 013833), St. Petersburg, Fla. This company was sold to United Insurance Holding Co. on April 3, 2017.

American Empire Surplus Lines Insurance Co. (AMB# 003735), Wilmington, Del. This company was sold to Great American Insurance Co. on Dec. 31, 2017.

AmeriHealth Casualty Insurance Co. (AMB# 012357), Wilmington, Del. This company was sold to AmTrust Financial Services Inc. on Feb. 28, 2017.

Atlanta International Insurance Co. (AMB# 002126), Flushing, N.Y. This company was sold to Columbia Insurance Co. on Jan. 1, 2017.

Blue Ridge Indemnity Co. (AMB# 002839), Sun Prairie, Wis. This company was sold as a shell to LOTS Intermediate Co. on April 1, 2017.

Chubb Custom Insurance Co. (AMB# 002713), Warren, N.J. This company was sold to Executive Risk Indemnity Inc. on Sept. 30, 2017.

Concord General Mutual Insurance Co. (AMB# 000289), Concord, N.H. This company was sold to Auto-Owners Insurance Co. on March 28, 2017.

Coventry Insurance Co. (AMB# 011545), Warwick, R.I. This company was sold to Greyhawk Insurance Co. on Oct. 24, 2017. Concurrently, changing its name to Greyhawk Specialty Insurance Co.

Dentists Benefits Insurance Co. (AMB# 010690), Portland, Ore. This company was sold to Dentists Insurance Co. on Feb. 28, 2017.

Fireman's Fund Insurance Company of Ohio (AMB# 002843), Columbus, Ohio. This company was sold as a shell to United Specialty Insurance Co. on Jan. 1, 2017.

Granite Re Inc. (AMB# 011379), Oklahoma City. This company was sold to Federated Mutual Insurance Co. on Jan. 1, 2017.

Green Mountain Insurance Co. Inc. (AMB# 002315), Berlin, Vt. This company was sold to Auto-Owners Insurance Co. on March 28, 2017.

Hamilton Insurance Co. (AMB# 022238), Wilmington, Del. This company was acquired by American International Group Inc. on Oct. 2, 2017.

Hamilton Specialty Insurance Co. (AMB# 022237), Wilmington, Del. This company was acquired by American International Group Inc. on Oct. 2, 2017.

Healthcare Underwriters Group Inc. (AMB# 013003), Columbus, Ohio. This company was sold to Medical Professional Mutual Insurance Co. on Dec. 1, 2017.

HM Casualty Insurance Co. (AMB# 013871), Pittsburgh. This company was sold to BrickStreet Mutual Insurance Group on Jan. 1, 2017.

InsureMax Insurance Co. (AMB# 012263), Newburgh, Ind. This company was sold to AssuranceAmerica Insurance Co. on July 21, 2017.

Legacy General Insurance Co. (AMB# 087059), Toronto. This company was sold to Securian Financial Group April 1, 2017.

Motor Club Insurance Co. (AMB# 013778), Providence, R.I. Fifty percent of this company was sold to Interinsurance Exchange of the Automobile Club on Dec. 1, 2017.

Northwest Dentists Insurance Co. (AMB# 010802), Bothell, Wash. This company was sold to Dentists Insurance Co. on Feb. 28, 2017.

Pacific Compensation Insurance Co. (AMB# 012572), Thousand Oaks, Calif. This company was sold to CopperPoint Mutual Insurance Co. on Dec. 31, 2017.

SeaBright Insurance Co. (AMB# 011755), Dallas. This company was sold to Clear Spring PC Acquisition Corp. on Jan. 1, 2017.

State Mutual Insurance Co. (AMB# 004771), Auburn, Maine. This company was sold to Auto-Owners Insurance Co. on March 28, 2017.

Sunapee Mutual Fire Insurance Co. (AMB# 001937), Concord, N.H. This company was sold to Auto-Owners Insurance Co. on March 28, 2017.

SureTec Indemnity Co. (AMB# 018676), San Diego. This company was sold to Markel Corp. on April 28, 2017.

SureTec Insurance Co. (AMB# 012227), Houston. This company was sold to Markel Corp. on April 28, 2017.

Vantapro Specialty Insurance Co. (AMB# 011219), Little Rock, Ark. This company was sold to Fairfax Financial Holdings Limited on July 6, 2017.

Vermont Accident Insurance Co. Inc. (AMB# 004780), Berlin, Vt. This company was sold to Auto-Owners Insurance Co. on March 28, 2017.

STATE ACTIONS

Guarantee Insurance Co. (AMB# 002300), Fort Lauderdale, Fla. This company was placed into insolvent liquidation on Nov. 27, 2017.

Public Service Insurance Co. (AMB# 000792), Chicago. This company was placed in rehabilitation on March 16, 2017.

DOMICILIARY CHANGES

Accident Insurance Co. Inc. (AMB# 012674), Columbia, S.C. This company redomesticated from South Carolina to New Mexico on April 11, 2017.

AssuranceAmerica Insurance Co. (AMB# 012615). South Carolina. This company redomesticated from South Carolina to Nebraska on May 1, 2017.

Chicago Title Insurance Co. (AMB# 004645), Omaha, Neb. This company redomesticated from Nebraska to Florida on March 1, 2017.

Commonwealth Land Title Insurance Co. (AMB# 004635), Omaha, Neb. This company redomesticated from Nebraska to Florida on March 1, 2017.

CorePointe Insurance Co. (AMB# 000237), Birmingham, Mich. This company redomesticated from Michigan to Delaware on Nov. 3, 2017.

Fidelity National Title Insurance Co. (AMB# 011977), Santa Barbara, Calif. This company redomesticated from California to Florida on March 1, 2017.

The General Automobile Insurance Co. Inc. (AMB# 014118), Valley View, Ohio. This company redomesticated from Ohio to Wisconsin on Aug. 31, 2017.

Golden Insurance Co. Risk Retention Group (AMB# 012492), Denver, N.C. This company redomesticated from Nevada to North Carolina on Dec. 29, 2017.

Harleysville Insurance Co. (AMB# 000643), Harleysville, Pa. This company redomesticated from Pennsylvania to Ohio on Nov. 13, 2017.

Harleysville Insurance Company of New York (AMB# 012051), Harleysville, Pa. This company redomesticated from Pennsylvania to Ohio on Nov. 13, 2017.

Harleysville Preferred Insurance Co. (AMB# 003779), Harleysville, Pa. This company redomesticated from Pennsylvania to Ohio on Nov. 13, 2017.

Harleysville Worcester Insurance Co. (AMB# 002483), Harleysville, Pa. This company redomesticated from Pennsylvania to Ohio on Nov. 13, 2017.

Independent Specialty Insurance Co. (AMB# 020566), Columbus, Ohio. This company redomesticated from Ohio to Delaware on Jan. 30, 2017.

Midvale Indemnity Co. (AMB# 022001), Chicago. This company redomesticated from Illinois to Wisconsin on Nov. 16, 2017.

Milford Casualty Insurance Co. (AMB# 003548), Madison, Wis. This company redomesticated from Wisconsin to Delaware on Aug. 28, 2017.

Pan-American Casualty Co. (AMB# 020573), Indianapolis. This company redomesticated from Indiana to Texas on June 22, 2017.

Permanent General Assurance Corp. (AMB# 001894), Valley View, Ohio. This company redomesticated from Ohio to Wisconsin on Aug. 31, 2017.

Permanent General Assurance Corporation of Ohio (AMB# 011303), Valley View, Ohio. This company redomesticated from Ohio to Wisconsin on Aug. 31, 2017.

Physicians Casualty Risk Retention Group Inc. (AMB# 014207), Las Vegas. This company redomesticated from Nevada to Alabama on Feb. 27, 2017.

Progressive Freedom Insurance Co. (AMB# 011441), West Trenton, N.J. This company redomesticated from New Jersey to Ohio on Nov. 3, 2017.

NEW COMPANIES in PROPERTY/CASUALTY

P/C Company Name	AMB#	Domicile	Incorporated
America Car Dealers RRG Inc.	023180	Hawaii	5/24/2017
Ardellis Insurance Ltd USB	023291	Michigan	7/1/2017
Ascent Insurance Co.	023085	Illinois	1/31/2017
CM Select Insurance Co.	023223	Wisconsin	5/4/2017
Centauri National Insurance Co.	020585	Louisiana	1/24/2017
Crystal Ridge Specialty Insurance Co.	023285	Illinois	10/4/2017
FFVA Select Insurance Co.	020588	Florida	8/16/2017
Gray Indemnity Co.	023279	Texas	11/27/2017
HDI Specialty Insurance Co.	023144	Illinois	2/3/2017
HiRoad Assurance Co.	020583	Illinois	1/31/2017
JM Specialty Insurance Co.	020576	Wisconsin	1/3/2017
KW Specialty Insurance Co.	020593	Delaware	11/1/2017
LCTA Specialty Insurance Co.	023194	Louisiana	3/15/2017
Midwest Family Advantage Insurance Co.	020590	Iowa	11/20/2017

P/C Company Name	AMB#	Domicile	Incorporated
Montauk RRG Inc.	023281	Vermont	8/18/2017
Next Insurance United States Company	023286	Delaware	9/26/2017
Omaha National Insurance Co.	023238	Nebraska	3/29/2017
ProTucket Insurance Co.	023142	Rhode Island	2/24/2017
R&Q Rhode Island Insurance Co.	023237	Rhode Island	6/23/2017
Recover Insurance Co. RRG	023179	Hawaii	4/20/2017
Safety Implementation Program RRG	023284	Nevada	10/25/2017
Standard & Preferred Insurance Co.	023267	New York	11/30/2017
Tower Health Reciprocal RRG	023283	Canada	8/22/2017
Trisura Group Ltd.	046559	Ontario	1/0/2017
Trisura Specialty Insurance Co.	020575	Oklahoma	5/31/2017
Vault E&S Insurance Co.	020586	Arizona	5/1/2017
Vault Reciprocal Exchange	020564	Florida	6/9/2017

Best's Credit Rating Actions

This edition lists all Credit Rating actions that occurred between April 1 and April 30, 2018. For the Credit Rating of any company rated by A.M. Best and basic company information, visit the A.M. Best website at *www.ambest.com/ratings/access.html* or download the ratings app at *www.ambest.com/sales/ambmobileapp*.

Operating Companies

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA LIFE/HEALTH								
⊕	L	Allstate Assurance Company *The Allstate Corporation*	007289	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	L	Allstate Life Insurance Co of NY *The Allstate Corporation*	007291	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	New York
⊕	L	Allstate Life Insurance Company *The Allstate Corporation*	006027	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
☑	L	American Fidelity Life Insurance Company *AMFI Corporation*	006055	B++ bbb	Negative Negative	B++ u bbb u	Negative Negative	Florida
⊕	L	American Heritage Life Insurance Company *The Allstate Corporation*	006064	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Florida
⇥	H	AMERIGROUP Florida, Inc.	068979	NR nr		A- a-	Stable Stable	Florida
—	H	AvMed, Inc. *SantaFe HealthCare, Inc.*	064074	C+ b-	Stable Stable	B u bb u	Negative Negative	Florida
⊕	L	Bankers Life Insurance Company *Greg E. Lindberg*	008448	B bb+	Positive Positive	B u bb u	Positive Positive	North Carolina
⚑	L	Cooperativa de Seguros de Vida de PR	007607	C+ u b- u	Negative Negative	C+ b-	Stable Stable	Puerto Rico
⊕	L	Great Western Insurance Company *American Enterprise Mutual Holding Co*	009362	A- a-	Stable Stable	B++ bbb+	Stable Stable	Utah
☑	L	Investors Heritage Life Insurance Co *Aquarian Investors Heritage Holdings LLC*	006580	B+ bbb-	Stable Stable	B+ u bbb- u	Developing Developing	Kentucky
⚑	L	MAPFRE Life Insurance Company *Fundación MAPFRE*	008618	A- u a- u	Developing Developing	A- a-	Stable Stable	Delaware
☑	L	Mountain Life Insurance Company *Mountain Services Corporation*	008354	B+ bbb-	Negative Negative	B+ u bbb- u	Negative Negative	Tennessee
⇅	L	National Security Insurance Company *National Security Group, Inc.*	006802	B+ bbb-	Positive Positive	B+ bbb-	Stable Stable	Alabama
⇥	H	United Concordia L & H Ins Co *Highmark Health*	006265	NR nr		A- a-	Stable Stable	Pennsylvania
☑	L	United Life Insurance Company *Kuvare Holdings LP*	007178	A- a-	Stable Stable	A- u a- u	Developing Developing	Iowa
U.S., CANADA AND BERMUDA PROPERTY/CASUALTY								
—	P	21st Century National Insurance Co *The Plymouth Rock Company Incorporated*	003786	A- u a- u	Developing Developing	A a	Stable Stable	New York
⊕	P	Allstate County Mutual Insurance Company *The Allstate Corporation*	000764	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Texas
⊕	P	Allstate Fire & Casualty Insurance Co *The Allstate Corporation*	003652	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Allstate Indemnity Company *The Allstate Corporation*	002018	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Allstate Insurance Company *The Allstate Corporation*	002017	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Allstate North American Insurance Co *The Allstate Corporation*	012482	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Allstate Northbrook Indemnity Company *The Allstate Corporation*	003791	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Allstate Property & Casualty Ins Co *The Allstate Corporation*	001978	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Allstate Texas Lloyd's *The Allstate Corporation*	010678	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Texas
⊕	P	Allstate Vehicle & Property Ins Co *The Allstate Corporation*	011559	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⇅	P	Ameritrust Insurance Corporation *Fosun International Holdings Ltd.*	012011	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Michigan

Rating Action: (⊕) Upgrade; (—) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type: P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA PROPERTY/CASUALTY (CONTINUED)								
—	P	Anchor General Insurance Company *Badani Family Trust*	000364	B bb+	Stable Negative	B+ bbb-	Negative Negative	California
⊕	P	Battle Creek Mutual Insurance Company *Nodak Mutual Group, Inc.*	004187	A a+	Stable Stable	A a	Stable Positive	Nebraska
—	P	Bay State Insurance Company *Andover Companies Pool*	002053	A+ aa-	Stable Stable	A+ u aa u	Negative Negative	Massachusetts
⇅	P	Builders Mutual Insurance Company *Builders Mutual Insurance Company*	012057	A a	Stable Positive	A a	Stable Stable	North Carolina
⇅	P	Builders Premier Insurance Company *Builders Mutual Insurance Company*	013868	A a	Stable Positive	A a	Stable Stable	North Carolina
—	P	Cambridge Mutual Fire Insurance Company *Andover Companies Pool*	002054	A+ aa-	Stable Stable	A+ u aa u	Negative Negative	Massachusetts
⊕	P	Central Co-operative Insurance Company	010736	A a	Stable Stable	A- a-	Positive Positive	New York
⇅	P	Century Surety Company *Fosun International Holdings Ltd.*	003780	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Ohio
⇅	P	CMIC Risk Retention Group *Connecticut Medical Insurance Company*	014143	A- a-	Negative Negative	A- a-	Stable Stable	District of Columbia
⇅	P	Connecticut Medical Insurance Company *Connecticut Medical Insurance Company*	010085	A- a-	Negative Negative	A- a-	Stable Stable	Connecticut
⇅	P	Constitution Insurance Company *Constitution Group, LLC*	014024	A- a-	Negative Negative	A- a-	Stable Stable	New York
⊕	P	Encompass Home and Auto Ins Co *The Allstate Corporation*	012535	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Encompass Indemnity Company *The Allstate Corporation*	000542	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Encompass Independent Insurance Company *The Allstate Corporation*	012536	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Encompass Insurance Company *The Allstate Corporation*	011794	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Encompass Insurance Company of America *The Allstate Corporation*	011703	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Encompass Insurance Company of MA *The Allstate Corporation*	010130	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Massachusetts
⊕	P	Encompass Property & Casualty Company *The Allstate Corporation*	011702	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois
⊕	P	Esurance Insurance Company *The Allstate Corporation*	002526	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Wisconsin
⊕	P	Esurance Property and Casualty Ins Co *The Allstate Corporation*	000273	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Wisconsin
⊕	P	FDM Preferred Insurance Company, Inc. *Fire Districts of NY Mutual Ins Co, Inc*	014022	B++ bbb	Stable Stable	B bb+	Stable Stable	New York
⊕	P	Fire Districts Insurance Company, Inc. *Fire Districts of NY Mutual Ins Co, Inc*	014023	B++ bbb	Stable Stable	B bb+	Stable Stable	New York
⊕	P	Fire Districts of NY Mutual Ins Co, Inc *Fire Districts of NY Mutual Ins Co, Inc*	003788	B++ bbb	Stable Stable	B bb+	Stable Stable	New York
⊕	P	Hartland Mutual Insurance Co	012501	B++ bbb+	Stable Stable	B++ bbb	Stable Stable	North Dakota
⊕	P	Illinois Casualty Company *ICC Holdings, Inc.*	000492	B++ bbb+	Stable Stable	B++ bbb	Stable Positive	Illinois
⇅	P	Indiana Lumbermens Mutual Insurance Co *Pennsylvania Lumbermens Mutual Ins Co*	000508	A- a-	Stable Stable	A- a-	Negative Negative	Indiana
⊕	P	Kentucky Growers Insurance Company	003146	B++ bbb+	Stable Stable	B++ bbb	Stable Stable	Kentucky
⇥	P	MedMal Direct Insurance Company* *Physicians Trust, Inc.*	014148	NR nr		B- bb-	Negative Negative	Florida
—	P	Merrimack Mutual Fire Insurance Company *Andover Companies Pool*	002055	A+ aa-	Stable Stable	A+ u aa u	Negative Negative	Massachusetts
⚑	P	National Building Material Assurance Co *Pennsylvania Lumbermens Mutual Ins Co*	012474	A- u a- u	Developing Developing	A- a-	Stable Stable	Indiana
⊕	P	Nissan Global Reinsurance, Ltd. *Nissan Motor Co., Ltd.*	071223	A a	Stable Stable	A- a-	Stable Stable	Bermuda
⊕	P	Nodak Insurance Company *Nodak Mutual Group, Inc.*	000705	A a+	Stable Stable	A a	Stable Positive	North Dakota
⊕	P	North Light Specialty Insurance Company *The Allstate Corporation*	013927	A+ aa	Stable Stable	A+ u aa- u	Positive Positive	Illinois

*Ratings were downgraded to B-/bb- from B++/bbb on April 13, 2018. Ratings were withdrawn on April 13, 2018.

Rating Action: (⊕) Upgrade; (—) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type: P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

Rating Action	Business Type	Company Name/ *Ultimate Parent*	AMB#	Current FSR ICR	Current Outlook/ Implications	Previous FSR ICR	Previous Outlook/ Implications	Domicile
U.S., CANADA AND BERMUDA PROPERTY/CASUALTY (CONTINUED)								
—	P	Pacific Star Insurance Company *Badani Family Trust*	013755	B bb+	Stable Negative	B+ bbb-	Negative Negative	Wisconsin
⇅	P	Palmetto Casualty Insurance Company *South Carolina FB Mutual Ins Co*	011240	B+ bbb-	Stable Stable	B+ bbb-	Negative Negative	South Carolina
⇅	P	Pennsylvania Lumbermens Mutual Ins Co *Pennsylvania Lumbermens Mutual Ins Co*	000756	A- a-	Stable Stable	A- a-	Negative Negative	Pennsylvania
New	P	Pittstown Cooperative Fire Ins. Co. *Security Mutual Insurance Company*	022399	A- a-	Stable Stable	NR nr		New York
⇅	P	ProCentury Insurance Company *Fosun International Holdings Ltd.*	002180	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Michigan
⇅	P	Savers P & C Ins Co *Fosun International Holdings Ltd.*	000524	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Missouri
⇅	P	South Carolina FB Mutual Ins Co *South Carolina FB Mutual Ins Co*	000838	B+ bbb-	Stable Stable	B+ bbb-	Negative Negative	South Carolina
⇅	P	Star Insurance Company *Fosun International Holdings Ltd.*	000695	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Michigan
⇅	P	STICO Mutual Insurance Company, RRG	011221	A- a-	Negative Negative	A- a-	Stable Stable	Vermont
☑	P	Triple-S Propiedad, Inc. *Triple-S Management Corporation*	000370	A- a-	Stable Stable	A- u a- u	Negative Negative	Puerto Rico
⇅	P	Williamsburg National Insurance Company *Fosun International Holdings Ltd.*	000263	B++ bbb+	Positive Positive	B++ bbb+	Stable Stable	Michigan
EUROPE, MIDDLE EAST AND AFRICA								
☑	P	Barents Reinsurance S.A. *Standard Capital Shareholdings, Inc.*	094889	A a	Stable Stable	A u a u	Negative Negative	Luxembourg
⚑	P	Cie Belge d'Assur Aviation SA (Aviabel) *AXIS Capital Holdings Limited*	083113	A u a u	Developing Developing	A a	Stable Stable	Belgium
—	L	Life Insurance Corp (Intl) B.S.C. (c) *Life Insurance Corporation of India*	077623	B++ bbb	Negative Negative	B++ u bbb+ u	Negative Negative	Bahrain
⇅	P	National Takaful Company (Watania) PJSC *MB Holding Company LLC*	092651	B bb+	Stable Stable	B bb+	Stable Negative	United Arab Emirates
ASIA PACIFIC								
New	L	Aflac Life Insurance Japan Ltd. *Aflac Incorporated*	095857	A+ aa-	Stable Stable			Japan
—	P	Jubilee General Insurance Company Ltd	086770	B+ bbb-	Stable Stable	B++ u bbb u	Negative Negative	Pakistan
⊕	P	Kommesk-Omir Insurance Company JSC *Centras Capital LLP*	092322	B- bb-	Stable Stable	C++ b+	Stable Stable	Kazakhstan
New	P	LIG Insurance (China) Co Ltd *KB Financial Group Inc.*	091591	A- a-	Stable Stable	NR nr		China
—	P	Nomad Insurance Company JSC *Nomad Insurance Group Limited*	092524	C++ b+	Stable Negative	B- bb-	Negative Negative	Kazakhstan
CARIBBEAN AND LATIN AMERICA								
⇅	C	ASSA Compañía de Seguros S.A. *Grupo ASSA, S.A.*	086937	A u a u	Developing Developing	A u a u	Negative Negative	Panama
—	P	DuraRock Reinsurance, Ltd *Matthew T. Moroun*	086477	A- a-	Stable Stable	A a	Negative Negative	Barbados
⇅	C	Instituto Nacional de Seguros	086238	A- a-	Positive Positive	A- a-	Stable Stable	Costa Rica

Holding Companies

Rating Action	Company Name	AMB#	Current ICR	Current Outlook/ Implications	Previous ICR	Previous Outlook/ Implications	Domicile
⊕	ICC Holdings, Inc.	46504	bb+	Stable	bb	Positive	Illinois
⇥	Investors Heritage Capital Corporation	5920	nr		bb- u	Developing	Kentucky
⊕	NI Holdings, Inc.	46503	bbb+	Stable	bbb	Positive	North Dakota
⊕	The Allstate Corporation	58312	a	Stable	a- u	Positive	Delaware

Rating Action: (⊕) Upgrade; (—) Downgrade; (New) Initial Rating; (⚑) Under Review; (⇅) Change in Outlook; (⇥) Rating Withdrawal; (☑) Rating Affirmation.
Outlook: Positive, Negative, Stable. **Implications:** Positive, Negative, Developing. **Business Type:** **P** = Property/Casualty (Non-Life); **L** = Life; **H** = Health; **T** = Title; **C** = Composite.

BEST'S FINANCIAL STRENGTH RATING GUIDE – (FSR)

A Best's Financial Strength Rating (FSR) is an independent opinion of an insurer's financial strength and ability to meet its ongoing insurance policy and contract obligations. An FSR is not assigned to specific insurance policies or contracts and does not address any other risk, including, but not limited to, an insurer's claims-payment policies or procedures; the ability of the insurer to dispute or deny claims payment on grounds of misrepresentation or fraud; or any specific liability contractually borne by the policy or contract holder. An FSR is not a recommendation to purchase, hold or terminate any insurance policy, contract or any other financial obligation issued by an insurer, nor does it address the suitability of any particular policy or contract for a specific purpose or purchaser. In addition, an FSR may be displayed with a rating identifier, modifier or affiliation code that denotes a unique aspect of the opinion.

Best's Financial Strength Rating (FSR) Scale

Rating Categories	Rating Symbols	Rating Notches*	Category Definitions
Superior	A+	A++	Assigned to insurance companies that have, in our opinion, a superior ability to meet their ongoing insurance obligations.
Excellent	A	A-	Assigned to insurance companies that have, in our opinion, an excellent ability to meet their ongoing insurance obligations.
Good	B+	B++	Assigned to insurance companies that have, in our opinion, a good ability to meet their ongoing insurance obligations.
Fair	B	B-	Assigned to insurance companies that have, in our opinion, a fair ability to meet their ongoing insurance obligations. Financial strength is vulnerable to adverse changes in underwriting and economic conditions.
Marginal	C+	C++	Assigned to insurance companies that have, in our opinion, a marginal ability to meet their ongoing insurance obligations. Financial strength is vulnerable to adverse changes in underwriting and economic conditions.
Weak	C	C-	Assigned to insurance companies that have, in our opinion, a weak ability to meet their ongoing insurance obligations. Financial strength is very vulnerable to adverse changes in underwriting and economic conditions.
Poor	D	-	Assigned to insurance companies that have, in our opinion, a poor ability to meet their ongoing insurance obligations. Financial strength is extremely vulnerable to adverse changes in underwriting and economic conditions.

* Each Best's Financial Strength Rating Category from "A+" to "C" includes a Rating Notch to reflect a gradation of financial strength within the category. A Rating Notch is expressed with either a second plus "+" or a minus "-".

Financial Strength Non-Rating Designations

Designation Symbols	Designation Definitions
E	Status assigned to insurance companies that are publicly placed under a significant form of regulatory supervision, control or restraint - including cease and desist orders, conservatorship or rehabilitation, but not liquidation - that prevents conduct of normal ongoing insurance operations; an impaired insurer.
F	Status assigned to insurance companies that are publicly placed in liquidation by a court of law or by a forced liquidation; an impaired insurer.
S	Status assigned to rated insurance companies to suspend the outstanding FSR when sudden and significant events impact operations and rating implications cannot be evaluated due to a lack of timely or adequate information; or in cases where continued maintenance of the previously published rating opinion is in violation of evolving regulatory requirements.
NR	Status assigned to insurance companies that are not rated; may include previously rated insurance companies or insurance companies that have never been rated by A.M. Best.

Rating Disclosure – Use and Limitations

A Best's Credit Rating (BCR) is a forward-looking independent and objective opinion regarding an insurer's, issuer's or financial obligation's relative creditworthiness. The opinion represents a comprehensive analysis consisting of a quantitative and qualitative evaluation of balance sheet strength, operating performance, business profile and enterprise risk management or, where appropriate, the specific nature and details of a security. Because a BCR is a forward-looking opinion as of the date it is released, it cannot be considered as a fact or guarantee of future credit quality and therefore cannot be described as accurate or inaccurate. A BCR is a relative measure of risk that implies credit quality and is assigned using a scale with a defined population of categories and notches. Entities or obligations assigned the same BCR symbol developed using the same scale, should not be viewed as completely identical in terms of credit quality. Alternatively, they are alike in category (or notches within a category), but given there is a prescribed progression of categories (and notches) used in assigning the ratings of a much larger population of entities or obligations, the categories (notches) cannot mirror the precise subtleties of risk that are inherent within similarly rated entities or obligations. While a BCR reflects the opinion of A.M. Best Rating Services, Inc. (A.M. Best) of relative creditworthiness, it is not an indicator or predictor of defined impairment or default probability with respect to any specific insurer, issuer or financial obligation. A BCR is not investment advice, nor should it be construed as a consulting or advisory service, as such; it is not intended to be utilized as a recommendation to purchase, hold or terminate any insurance policy, contract, security or any other financial obligation, nor does it address the suitability of any particular policy or contract for a specific purpose or purchaser. Users of a BCR should not rely on it in making any investment decision; however, if used, the BCR must be considered as only one factor. Users must make their own evaluation of each investment decision. A BCR opinion is provided on an "as is" basis without any expressed or implied warranty. In addition, a BCR may be changed, suspended or withdrawn at any time for any reason at the sole discretion of A.M. Best.

Financial Size Category

To enhance the usefulness of ratings, A.M. Best assigns each rated (A++ through D) insurance company a Financial Size Category (FSC). The FSC is based on adjusted policyholders' surplus (PHS) in U.S. dollars and may be impacted by foreign currency fluctuations. The FSC is designed to provide a convenient indicator of the size of a company in terms of its statutory surplus and related accounts.

Many insurance buyers only want to consider buying insurance coverage from companies that they believe have sufficient financial capacity to provide the necessary policy limits to insure their risks. Although companies utilize reinsurance to reduce their net retention on the policy limits they underwrite, many buyers still feel more comfortable buying from companies perceived to have greater financial capacity.

Class	Adj. PHS ($ Millions)	Class	Adj. PHS ($ Millions)
I	Less than 1	IX	250 to 500
II	1 to 2	X	500 to 750
III	2 to 5	XI	750 to 1,000
IV	5 to 10	XII	1,000 to 1,250
V	10 to 25	XIII	1,250 to 1,500
VI	25 to 50	XIV	1,500 to 2,000
VII	50 to 100	XV	2,000 or greater
VIII	100 to 250		

BCRs are distributed via the A.M. Best website at *www.ambest.com*. For additional information regarding the development of a BCR and other rating-related information and definitions, including outlooks, modifiers, identifiers and affiliation codes, please refer to the report titled "Understanding Best's Credit Ratings" available at no charge on the A.M. Best website. BCRs are proprietary and may not be reproduced without permission.

BEST'S ISSUER CREDIT RATING GUIDE – (ICR)

A Best's Issuer Credit Rating (ICR) is an independent opinion of an entity's ability to meet its ongoing financial obligations and can be issued on either a long- or short-term basis. A long-term ICR is an opinion of an entity's ability to meet its ongoing senior financial obligations, while a short-term ICR is an opinion of an entity's ability to meet its ongoing financial obligations with original maturities generally less than one year. An ICR is an opinion regarding the relative future credit risk of an entity. Credit risk is the risk that an entity may not meet its contractual financial obligations as they come due. An ICR does not address any other risk. In addition, an ICR is not a recommendation to buy, sell or hold any securities, contracts or any other financial obligations, nor does it address the suitability of any particular financial obligation for a specific purpose or purchaser. An ICR may be displayed with a rating identifier or modifier that denotes a unique aspect of the opinion.

Best's Long-Term Issuer Credit Rating (ICR) Scale

Rating Categories	Rating Symbols	Rating Notches*	Category Definitions
Exceptional	aaa	-	Assigned to entities that have, in our opinion, an exceptional ability to meet their ongoing senior financial obligations.
Superior	aa	aa+ / aa-	Assigned to entities that have, in our opinion, a superior ability to meet their ongoing senior financial obligations.
Excellent	a	a+ / a-	Assigned to entities that have, in our opinion, an excellent ability to meet their ongoing senior financial obligations.
Good	bbb	bbb+ / bbb-	Assigned to entities that have, in our opinion, a good ability to meet their ongoing senior financial obligations.
Fair	bb	bb+ / bb-	Assigned to entities that have, in our opinion, a fair ability to meet their ongoing senior financial obligations. Credit quality is vulnerable to adverse changes in industry and economic conditions.
Marginal	b	b+ / b-	Assigned to entities that have, in our opinion, a marginal ability to meet their ongoing senior financial obligations. Credit quality is vulnerable to adverse changes in industry and economic conditions.
Weak	ccc	ccc+ / ccc-	Assigned to entities that have, in our opinion, a weak ability to meet their ongoing senior financial obligations. Credit quality is vulnerable to adverse changes in industry and economic conditions.
Very Weak	cc	-	Assigned to entities that have, in our opinion, a very weak ability to meet their ongoing senior financial obligations. Credit quality is very vulnerable to adverse changes in industry and economic conditions.
Poor	c	-	Assigned to entities that have, in our opinion, a poor ability to meet their ongoing senior financial obligations. Credit quality is extremely vulnerable to adverse changes in industry and economic conditions.

** Best's Long-Term Issuer Credit Rating Categories from "aa" to "ccc" include Rating Notches to reflect a gradation within the category to indicate whether credit quality is near the top or bottom of a particular Rating Category. Rating Notches are expressed with a "+" (plus) or "-" (minus).*

Best's Short-Term Issuer Credit Rating (ICR) Scale

Rating Categories	Rating Symbols	Category Definitions
Strongest	AMB-1+	Assigned to entities that have, in our opinion, the strongest ability to repay their short-term financial obligations.
Outstanding	AMB-1	Assigned to entities that have, in our opinion, an outstanding ability to repay their short-term financial obligations.
Satisfactory	AMB-2	Assigned to entities that have, in our opinion, a satisfactory ability to repay their short-term financial obligations.
Adequate	AMB-3	Assigned to entities that have, in our opinion, an adequate ability to repay their short-term financial obligations; however, adverse industry or economic conditions likely will reduce their capacity to meet their financial commitments.
Questionable	AMB-4	Assigned to entities that have, in our opinion, questionable credit quality and are vulnerable to adverse economic or other external changes, which could have a marked impact on their ability to meet their financial commitments.

Long- and Short-Term Issuer Credit Non-Rating Designations

Designation Symbols	Designation Definitions
d	Status assigned to entities (excluding insurers) that are in default or when a bankruptcy petition or similar action has been filed and made public.
e	Status assigned to insurers that are publicly placed under a significant form of regulatory supervision, control or restraint - including cease and desist orders, conservatorship or rehabilitation, but not liquidation - that prevents conduct of normal ongoing operations; an impaired entity.
f	Status assigned to insurers that are publicly placed in liquidation by a court of law or by a forced liquidation; an impaired entity.
s	Status assigned to rated entities to suspend the outstanding ICR when sudden and significant events impact operations and rating implications cannot be evaluated due to a lack of timely or adequate information; or in cases where continued maintenance of the previously published rating opinion is in violation of evolving regulatory requirements.
nr	Status assigned to entities that are not rated; may include previously rated entities or entities that have never been rated by A.M. Best.

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 Version 051018

Industry Updates

Alternative Capital Signals Its Presence As M&A Remakes Reinsurance Market

Alternative capital is playing a growing role in the rapid remodeling of the reinsurance market under mergers and acquisitions pressure, according to market watchers.

Nicholas Bradley, partner and head of insurance, London-based law firm Pinsent Masons LLP, said alternative capital markets in reinsurance are now an established part of the sector and don't appear to be going away. He said insurance-linked securities have to some extent "put a brake" on the ability of reinsurers to raise rates.

According to David Flandro, global head of analytics, JLT Re, it could be argued the main role played by alternative capital has not been as a buyer of reinsurance companies but as a new source of reinsurance capital, which "has kept pricing and returns lower, thereby increasing the likelihood that reinsurers will engage in M&A."

"The flow of alternative capacity entering the market has slowed, but it hasn't stopped."

Robert DeRose
A.M. Best Co.

Alternative capital has played a role "insofar as some of the instruments paid out successfully following the 2017 events, and the reload following those events was healthy, both contributing to the failure of reinsurance prices to respond positively," said Peter Allen, partner in the insurance practice with Moore Stephens LLP in London.

"We know that ILS issuance dried up in 2008 so we know that ILS capital development is not about demand from insurance and reinsurance cedants, it's about supply from investors," he said. Allen said the question is whether that supply is permanent when when other asset classes look healthier. "So I would hesitate to call it a permanently expanding influence yet," he noted.

"Reinsurers are resourceful, as they historically have been, and they're trying to find new opportunities, whether it be to employ alternative capacity to support fee income and sustain their clients' capacity or find new geographies or new risk classes in order to enter," said Robert DeRose, senior director, A.M. Best Co.

DeRose said many reinsurers have sidecar facilities that engage third-party capital. "We see that as a growing trend, and we think it has to be a growing trend for the reinsurers to find more capital-efficient ways to approach the market." He noted others are moving into more casualty classes of business, "where at this point in time, third-party capital either doesn't have the appetite to go there or is not willing to go there."

"The flow of alternative capacity entering the market has slowed, but it hasn't stopped," said DeRose.

"It's worth emphasizing that they are facing the same fundamental challenges and pressures that traditional players are facing. The return metrics are not what they have historically been."

"That said, conditions in the global reinsurance market are very competitive, even as cession rates have begun to tick up," said DeRose. "For traditional players, going forward, underwriting will have to become a larger contributor to profits and returns, leading to a more cautious risk selection, more diversification of product offerings, a wider geographic reach and conservative loss picks. The solid players will be those that have been conservative in underwriting and reserving, have developed a book of business that will remain relevant for today's market and allows for quick shifts in and out of lines of business."

The growing influence of alternative capital in reinsurance markets comes as reinsurers and insurers seek greater market clout through M&A amid soft pricing conditions and competition, according to industry observers.

The pending acquisitions of Validus Holdings Ltd. by American International Group Inc. and of XL Group Ltd. by Axa SA show that appetite for the deal remains strong.

In addition to ILS, Bradley said there is a problem with finding creative ways to deploy excess capital in a soft market. Reinsurers aren't really using that capacity to drive new products, he said.

There are some new products such as cyber, but Bradley said there are a lot of uninsured areas worldwide for which capital hasn't been deployed.

He also noted insurance and reinsurance markets are being increasingly understood by financial entities outside those sectors, which are taking a greater interest in reinsurance as an investment.

Noting takeovers by companies outside of the reinsurance sector have already taken place, Flandro said private equity, industrial companies, asset managers and others have surfaced as buyers in recent years "and this looks set to continue. There is a deep and diversified pool of capital, which is interested in the reinsurance sector."

Allen considered the impact the changing market is having on reinsurance clients.

"Nobody wants over-concentration in any sector of business" such as airline manufacturers or even global audit firms, he said "But we are miles from that position in reinsurance. By the standards of other global business sectors, it remains relatively unconsolidated, with multiple players and relative ease of entry. I doubt this current trend will have a pricing impact, absent other hits to capital, so I think buyers should not be too concerned."

While ILS, like traditional reinsurance, is now "a tool in the box," Bradley said he doesn't think it's really been tested in a big way. "Will they prove their worth or will people lose their faith in them? I don't know because it hasn't happened yet," said Bradley. Allen cautioned the supply of alternative capital has yet to be fully tested in investment markets where bond yields and public interest rates have returned to normal.

—David Pilla

Reinsurers, Insurers Seek to Combine Forces Through Mergers and Acquisitions

Reinsurers and insurers are seeking greater market clout through mergers and acquisitions amid soft pricing conditions and competition, according to industry observers.

The pending acquisitions of Validus Holdings Ltd. by American International Group Inc. and of XL Group Ltd. by Axa SA show that appetite for the deal remains strong.

Nicholas Bradley, partner and head of insurance, London-based law firm Pinsent Masons LLP, said a long soft-market period is one of the drivers of the M&A activity. That soft market has squeezed margins, leading to a desire for economy of scale.

"Although current market conditions appear to be stabilizing, competition remains intense and quality of earnings remains under pressure," said Robert DeRose, senior director, A.M. Best.

"Companies are flush with capital, borrowing is still relatively inexpensive, opportunities for organic growth are limited and some companies are struggling to cover the cost of capital, which puts M&A on the table. All this is sustaining the need for further M&A activity and A.M. Best believes that consolidation will continue, particularly among smaller players in the market as acceptable returns become increasingly harder to achieve. If done prudently, should help improve the efficiency of the market's overall capacity and lead to greater operational discipline."

The stand-alone reinsurance model "is still frequently the best model for entering new markets, exploiting comparative advantages and developing competitive expertise."

David Flandro
JLT Re

M&A is driven by multiple elements but three factors have influenced most recent deals, said David Flandro, global head of analytics, JLT Re.

"First, it has been increasingly challenging for reinsurers to meet their own return hurdles as prices have fallen and yields have stayed low post-2012," he said.

"Second, insurance and industrial conglomerates with larger balance sheets and lower costs of capital have been able to consolidate reinsurers' operations profitably thereby lowering those return hurdles."

A third factor is that "periods of high valuations since the end of the financial crisis have been sufficient to pique reinsurers' interest and make them ask 'what if?'."

Flandro said he doesn't believe there has been a recent, cyclical acceleration, "although there have certainly been some high-profile deals." There has been a steady stream of reinsurer M&A over the last decade, he said.

London and Bermuda had over 20 quoted reinsurers between them as recently as 2010—a number which could conceivably go below five by the end of 2018. "So this has been happening for quite a long time," he said.

Lex Baugh, chief executive officer of North American general insurance at American International Group Inc., said in a recent A.M. BestTV panel discussion that M&A is bringing capacity to markets to "be able to continue to expand and continue to be able to develop their business. I think overall that's pro-competitive for the market."

Greg Hendrick, president of property/casualty for XL Catlin, said in the panel discussion that for XL, recently the seller in a big M&A deal, as for AIG, the buyer in the acquisition of Validus, it comes down to "the need for scale and relevance."

Bradley said the deal that changed the M&A game for many in the market was the acquisition of Chubb Corp. by Ace Ltd.

"Companies thought to be too big to acquire or be acquired were suddenly in play," he said. "That has probably led to M&A activity in the reinsurance field becoming high profile."

Ace Ltd. completed its $29.5 billion acquisition of Chubb Corp. and assumed the Chubb name early in 2016.

Bradley said the Chubb deal together with latest acquisition announcement—the $15.3 billion proposed acquisition by Axa of XL Group—show that "nobody's too big to be in the game."

The recent M&A deals involving both insurers and reinsurers raise the question of whether pure-play reinsurers can stay in the game.

Peter Allen, partner in the insurance practice with accounting and advisory firm Moore Stephens LLP in London, said the case can be made.

"In fact, in the long term I think you can make more of a case for the specialist reinsurer than you can for the specialty P&C direct writer," he said.

"The latter are very vulnerable to the outsourcing of underwriting to managing general agents and other delegated underwriters, and that vulnerability is only increased by digital. Whereas you're always going to need ultimate eaters and absorbers of risk – specialist reinsurers possibly augmented by alternative capital. I don't think these guys are going away any time soon."

"There are very few pure property/casualty reinsurers today, most have multiple forms of distribution and most engage third-party capacity," said DeRose.

"Those that are pure, Trans Re, for example, are not publicly traded anymore and therefore do not have to be focused on top line growth, but can remain disciplined through the various phases of the property/casualty market cycle."

Pure reinsurers can do well if they have the size and agility, Munich Re being the best example, said Bradley.

"It's tough at the moment for pure reinsurers, but those that combine scale with agility to meet market demands as they change will survive, but there will be a small number of them," Bradley said.

Flandro said the stand-alone reinsurance model "is still frequently the best model for entering new markets, exploiting comparative advantages and developing competitive expertise."

He added that stand-alone reinsurers still comprise the largest proportion of premiums in the reinsurance market, although there are fewer stand-alone, quoted carriers now than there have been since the 1990s.

—David Pilla

BEST'S REVIEW®

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The Last Word

Tech Support

Insurers are building Amazon Alexa skills to help consumers make decisions about medical benefits, check on claims and get information about insurance products and terminology.

by Lori Chordas

Simply uttering the name "Alexa" can awaken voice-enabled speaker devices and allow users to play music, order groceries, control home devices, create to-do lists and more.

Now devices such as Amazon Alexa, Google Home and Apple HomePad are also taking the guesswork out of insurance.

"Alexa, what's a formulary?"

Surprisingly, 66% of respondents to the *2017 Measuring Health Insurance Literacy in Connecticut* survey didn't know the answer to that question, and 20% said they did not understand the use of the word "premium."

Cigna recently rolled out an Amazon Alexa skill to demystify health insurance language and provide instant answers to more than 150 common health care questions.

"Answers by Cigna" personalizes and simplifies health benefits information. Studies show that people who don't understand the terms used in their health plan are less likely to take full advantage of their benefits.

"Having a good understanding of your health and health plan offerings is so critical in making decisions about medical benefits, doctors and other health care needs," said Rowena Track, vice president of digital marketing at Cigna.

Prudential Retirement is also partnering with Amazon to allow plan participants enrolled in its defined contribution, defined benefit cash balance and non-qualified retirement plans to check their account balance, rate of return, vested amount and outstanding loan balance.

More than half of Americans now use a voice assistant device. This year, 30% of technology interactions will be through "conversations" with smart machines, Gartner reports.

Geico, Nationwide, Progressive and other insurers have created voice device skills or apps that allow policyholders to check their claims status, request ID cards, find a local insurance agent and get information about insurance products and terminology. Some insurers are also using voice technology assistants like Alexa to allow input and access to customer information and engage in a two-way conversation with their policyholders, said Tom Benton, vice president of research and consulting at Novarica.

Liberty Mutual's Alexa skill helps users navigate the insurance claims process and provides tips for individuals on the road or at home. Existing Liberty Mutual policyholders can begin the claims process for property loss through voice interaction by answering a few simple questions.

California-based insurtech Ladder has an Alexa app that allows users to ask insurance-related questions and receive a ballpark quote.

"These are potential game changers for the industry," Benton said. He expects insurance sales through voice-control artificial intelligence to soon become the norm in the industry.

There are some security and privacy concerns that weigh heavily on consumers' minds, including fears that IoT devices connected to voice-controlled personal assistants could be hacked. And because microphones inside the devices are always on, it sends up some red flags about potential privacy issues.

Users of Prudential Retirement's Alexa skill are required to provide a personal identification number with each use, and its skill shuts down after 16 seconds to ensure information doesn't fall into the hands of others who may be listening in.

The use of virtual personal assistants in insurance is expected to grow.

Benton expects the connection of digital voice assistants to insurers' customer-facing systems and smart home IoT devices will soon bring new capabilities to insureds, including protective notification of water leaks, smoke detection and other risk factors. BR

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