

The Actuary

APRIL/MAY 2013 VOLUME 10 ISSUE 2

BEYOND SOCIAL NETWORKING

Discussing modern social networking tools and more

ARE BLACK SWANS REAL?

Tips to better handle emerging extreme events

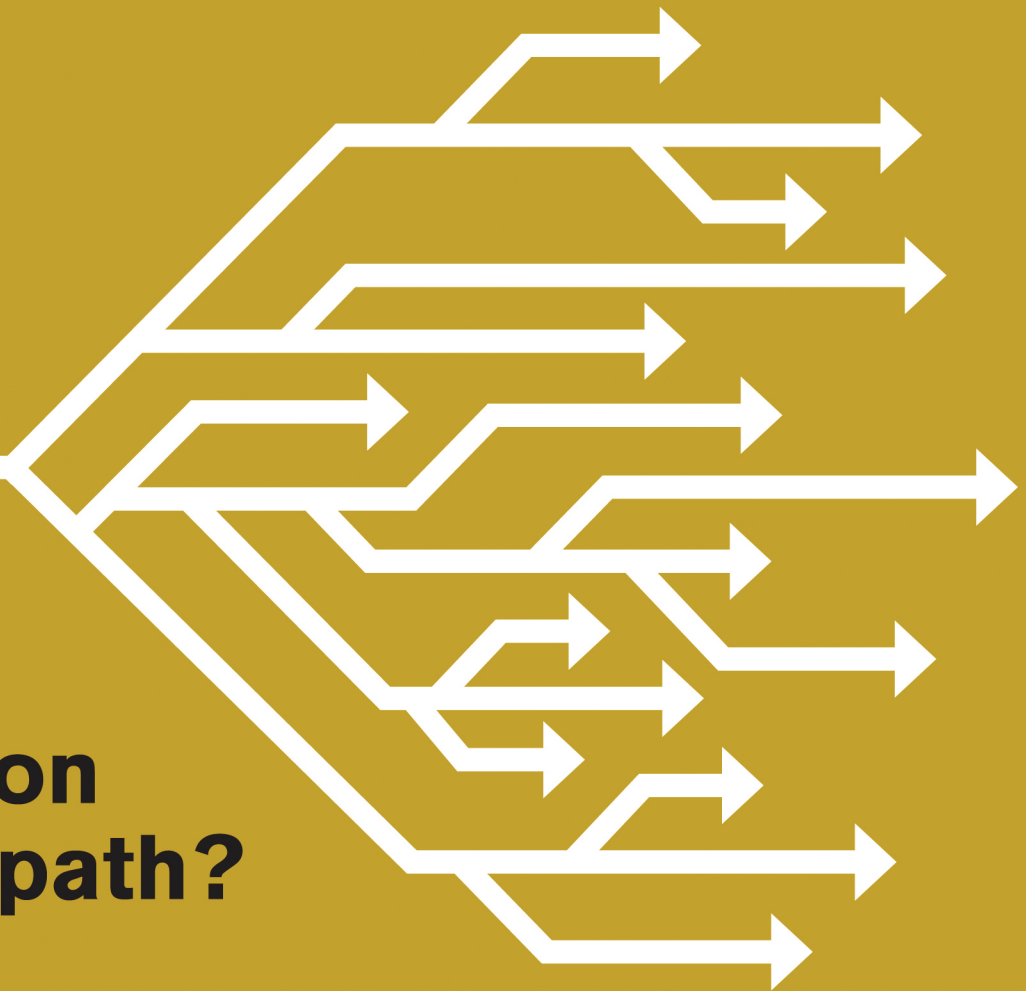
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The SOCIETY OF ACTUARIES Actuary

SOA PRESIDENT

Tonya B. Manning
FSA, MAAA, EA, FCA
tmanning@soa.org

SOA STAFF CONTACTS

Patrick Gould
Managing Dir. of Marketing
& Communications
pgould@soa.org

Lisamarie Lukas
Dir. of Communications
llukas@soa.org

Karen Perry
Publications Manager
kperry@soa.org

Jacque Kirkwood
Sr. Communications Associate
jkirkwood@soa.org

Sam Phillips
Magazine Staff Editor
sphillips@soa.org

Erin Pierce
Graphic Designer
epierce@soa.org

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CONTRIBUTING EDITORS

Rod Bubke
FSA, MAAA
rod.l.bubke@ampf.com

Carl Hansen
FSA, EA, FCA, MAAA
chansen@bwcigroup.com

Jay Jaffe
FSA, MAAA
jay@actentltd.com

Wilbur Lo
FSA
wilbur.lo@hannover-re.com

Karin Swenson-Moore
FSA, MAAA
karin.swenson-moore@regence.com

Timothy Paris
FSA, MAAA
timothyparis@ruarkonline.com

James Ramenda
FSA, CERA
jramenda@sscinc.com

Lloyd Spencer
FSA, CERA, MAAA
Lloyd.Spencer@HLRAmerica.com

Larry Stern
FSA, MAAA
larry_stern@earthlink.net

Kurt Wrobel
FSA, MAAA
kurt.wrobel@milliman.com

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Editorial

A TRULY GLOBAL ORGANIZATION

BY CARL HANSEN

THE SOCIETY OF ACTUARIES is well on its way to becoming a truly global organization with members working in more than 60 countries. Since 1995, the percentage of the membership outside the United States and Canada has increased from about 8 percent to nearly 14 percent of the total. This trend will continue to accelerate since four of the top 10 largest SOA examination centers are located outside the United States and Canada—in Hong Kong, Seoul, Beijing, and Taipei.

For the past two years, I have been part of the 14 percent outside of the United States and Canada as I have been based in Guernsey in the Channel Islands. In case you are not aware, Guernsey is a 25 square mile island with about 65,000 people just off the north coast of France. It is a British Crown Dependency, so there are many influences coming from the north side of the Channel. However, the proximity to France is evident, especially in place names. As an international finance center, Guernsey is home to more than its fair share of actuaries. In fact, we believe that Guernsey has the highest concentration of actuaries per capita of any jurisdiction in the world. It is probably also one of the few places with a black tie

dinner for the annual meeting of its local actuarial organization (the Channel Islands Actuarial Association).

I have had the good fortune to spend a significant portion of my career on international issues. In my current job, I

It is interesting to see how certain countries tackle similar problems in very different ways.

interact with actuaries from many different countries on a daily basis and learn about the issues affecting their work. I have also had the opportunity to attend actuarial conferences on five continents. What strikes me is how similar actuaries are regardless of where they come from. The problems facing actuaries are also very similar—issues such as risk-based solvency for insurance, potential shortfalls in retirement income, and financial pressures on social programs.

It is interesting to see how certain countries tackle similar problems in very different ways. Some of this may be dictated by

local regulations or financial conditions, but there seems to be an aspect linked to the local employment market for actuaries. For example, actuaries in countries further along in the demise of defined-benefit pension plans seem to have adopted a more entrepreneurial approach in applying the

actuarial skill set to wider business problems. Perhaps all actuaries are better served by taking a more holistic view of ourselves as managers of financial risks. By sharing experience across borders, actuaries can be better equipped to attack increasingly complex issues.

If you are one of the 14 percent, I encourage you to give feedback to the SOA leadership so that they can adequately allocate resources and make them work better for you. Consider joining the SOA's International Section if you are not already a member, or run for the section council if you are a member. The



Carl Hansen

International Section coordinates a variety of activities such as regional continuing education seminars and local experience studies. Over the years, the International Section has taken the lead on developing the SOA ambassador program to encourage interaction and activities at the local level. A current list of country ambassadors is on the SOA website (<http://www.soa.org/Professional-Interests/International/intl-soa-ambassador-listing.aspx>).

If you are one of the 86 percent in the United States and Canada, I encourage you to think globally. Share your knowledge with those in countries where the profession

is in the early stages of development by volunteering for Actuaries Without Borders. Take advantage of opportunities to exchange ideas with colleagues from around the world. One such opportunity is the International Congress of Actuaries held every four years. The 2014 Congress will be in Washington, D.C. from the 30th of March to the 4th of April. This event typically draws actuaries from all disciplines and backgrounds, representing many different countries. The International Actuarial Association's events calendar has a comprehensive summary of meetings and conferences around the world (<http://www.actuaries.org/calendar/>).

Being a qualified actuary through the SOA is an international credential in an increasingly portable profession. Embrace the SOA's globalization and use it to expand your perspective and your business skills. Who knows, it may even take you to a small island on the other side of the world! **A**

Carl Hansen, FSA, EA, FCA, MAAA, is international director for BWCI Group. He can be contacted at chanson@bwci.com.



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Letter From The President

WORKING TO INSPIRE & ENCOURAGE

BY TONYA B. MANNING

EARLIER THIS YEAR, I had the opportunity to do a mock interview with a young man headed off to university. He had been accepted to a technical university and was being considered for a scholarship in their school of engineering.

Thomas and I quickly hit upon a few common bonds—our love of math, analytics and finance. He was smart, engaging and had a vision for his future. We talked about the classes Thomas enjoyed in high school, his extracurricular activities, and at length about his interest in math and finance. Thomas enjoyed problem-solving and didn't seem to shy away from a challenge. Our 60 minutes together flew by quickly.

I chose to share this experience because articulate and engaging Thomas, with his love of math and problem-solving, had firmly made up his mind to pursue an engineering career. His interest in engineering was piqued when a civil engineer visited with his class when he was in middle school.

Let me be clear that I think being an engineer is a terrific career. It is highly visible and easily envisioned (think bridges, electrical circuits and spacecrafts). Now, I'm well aware that the career we think we want when we are Thomas' age is often not where life takes us. However, this meeting made an

impression and provided food for thought. What if instead, an actuary had visited Thomas' classroom? What if his teacher had access to free materials designed to introduce actuarial concepts and enhance their math education programs?

In fact, when I was in high school, I was not made aware of a career as an actuary. My path to becoming an actuary was instead by chance, only after I was hired as an analyst by an actuarial firm. Once I was exposed to the work of actuaries and understood all that the career was and could be, I was in love with the profession and never considered another career.

In my opinion, we have a unique responsibility to ensure our profession's continued growth by helping to raise awareness of the profession as a vibrant, challenging and rewarding career option for bright young students like Thomas.

So think back to what made you decide to pursue the actuarial profession. Was it your love of math? Did you enjoy problem-solving? Were you seeking an intellectual challenge? Did you learn about the profession from a family member, teacher, career counselor or neighbor? Were you already in another career—a teacher, accountant, banker, attorney, an engineer—and wanted a change?

No matter how you arrived at your decision, you are now a member of an elite and esteemed profession. And while we are a "small" profession in size, about 73,000 globally, when compared with the number of doctors, attorneys, teachers and engineers in the world, we are entrusted to serve our employers, our clients and the public on some of the most pressing, important business issues of the day.

As the leaders in our profession move toward retirement, this makes room for the advancement of the next generation of professionals. It is rare that we've ever had to worry about filling the pipeline. However, today, more than ever before, talented students and early professionals are being introduced to math-related careers at a younger age. Engineering, for example, has been able to make in-roads into elementary education capturing the attention of students through visual, graphic depiction of their craft. There are also annual competitions for middle and high school students designed to help them discover their potential for engineering.

Of course it is more difficult for the actuarial profession to share our work in the same exact way. We must chart our own path to communicate with these young minds how actuaries use math to help businesses, organizations, individuals—and even



Tonya B. Manning

society—solve complex problems. As an SOA member, if you agree with me, I invite you to consider three different ways to share your enthusiasm and passion.

First, read everything you can on the acronym, STEM. In the United States and Canada, STEM refers to Science, Technology, Engineering, and Mathematics education. Wikipedia explains the acronym that has become common in education circles as “reference to the shortage of skilled workers and inadequate education in these areas.” For about the past three decades, initiatives have been created to address the perceived lack of qualified candidates for these roles. While this has been an important charge for the public education agenda in the United States, as a profession with grounding in math and analytics, we can be vocal advocates and supporters for STEM education and initiatives whether you live in the United States, Canada or in other parts of the world. As an actuary, you have firsthand knowledge of how a strong educational curriculum is needed to maintain the growth and pace of discovery and advancement in the mathematics and science industry, now and into the future.

Second, have you thought about becoming a mentor to a young person? Throughout my career, I’ve been fortunate to have great mentors whose advice and guidance I appreciate to this day. You may know that The Actuarial Foundation (U.S.) develops, funds and executes education and research programs that serve the public by harnessing the talents of actuaries. Its youth programs, consumer financial education, research, awards/prizes, and its scholarships and reimbursement programs open doors to the actuarial profession. In fact, just this April, Terry Savage, a best-selling author who writes a syndicated column for the Chicago Sun-Times, commended the

Foundation’s efforts to improve math and financial knowledge. But did you know the Foundation also has an active mentoring program that is always in need of volunteers? In addition, the Foundation welcomes actuaries to participate in classroom activities in your local areas. Similarly, The Actuarial Foundation of Canada is working to inspire the next generation by delivering educational resources and activities tailored to students and educators.

Third, I would be remiss not to mention that I’m particularly proud of the volunteer and staff efforts to refresh the Be An Actuary website as a collaboration between the Casualty Actuarial Society (CAS) and the Society of Actuaries. This award-winning website was redesigned in 2011 to support the outreach efforts of the Joint CAS/SOA Career Encouragement and Diversity Committee. Based upon feedback the committee received from high school and college students, the website was redesigned and has been written in an approachable manner to appeal to a wide audience seeking information on “being an actuary.” You may not be aware that the website features a speakers’ presentation toolkit developed specifically to share with high school students. The toolkit contains great information, including a Power Point presentation that can be easily tailored to your audience—whether you are speaking at a career day or talking with a small group of AP calculus students. I hope you will visit the Be An Actuary website to check out the content today and return to it the next time you receive a phone call from your local area high school seeking a speaker to chat with curious young minds.

Much has been written about Big Data and STEM education. Actuaries have “done” big data before it was “cool,” before the phrase became intertwined in business speak. The

phrase has been used so much in the media over the past year it is obvious the phrase isn’t going away. An article in the March 1, 2013 issue of The Wall Street Journal titled, “Data Crunchers Now the Cool Kids on Campus” is rife with the mention of statisticians. While this article is good for the profession because it heightens awareness of the increasing business demand for people who can analyze and interpret massive amounts of data, we must now rise to the challenge to ensure actuaries are recognized with that same measure of “coolness.” Our rigorous training takes it to the next level. We see opportunities, we communicate and we develop and implement strategies. Actuaries are actually the cool kids who’ve become successful grown-up professionals.

I’ve been so especially impressed with the university students, actuarial candidates, new ASAs and FSAs I have met during my time as president. I am proud to share my story and honored to represent the SOA and its 23,000 members in my travels across the globe.

I hope you will join me in working to inspire and encourage the next generation of bright young minds to pursue a career in the actuarial profession. And I hope someday in the not too distant future, Thomas will send me an email with additional questions about the profession. I’ll be happy to respond. I mean, who knows where time will lead us? Thomas just might be a future SOA president.

Warm regards! ☑

Tonya B. Manning, FSA, MAAA, EA, FCA, is president of the Society of Actuaries. She can be contacted at tmanning@soa.org.



BEYOND NETWORK

HOW TO GET THE MOST FROM SOCIAL NETWORKS



SOCIAL WORKING

WORKING TOOLS. BY KEVIN PLEDGE



YOU CAN TWEET AND POST AND LINK AS MUCH AS YOU WANT, BUT IF YOU FORGET THE MOST IMPORTANT PART OF NETWORK BUILDING ACCORDING TO THIS ARTICLE, YOU'LL NEVER BE AS SUCCESSFUL AS POSSIBLE.

Ten years ago the term social networking did not exist, Mark Zuckerberg was a first-year student at Harvard, tweeting was still something you only heard from birds, although an early version of LinkedIn was in development. LinkedIn and MySpace launched in 2003, Facebook a year later and Twitter in 2006; in this short time these social networking tools have become an everyday feature for everyone from students to big businesses.

There have been many articles written about these social networking tools, typically from the perspective of how to use them more effectively for selling or marketing and too often ignoring the fact that they are just tools and social networking is still about connecting with people.

In this article I give my personal perspective on social networking tools and how these new tools need to be integrated into an overall networking approach.

NETWORKING

Before discussing modern social networking tools, let me first introduce Elmer Leterman and give an example of successful networking. Leterman is recognized as one of the greatest networkers of all time; he is most famous for the networking lunches he organized every Friday at the Manhattan Four Seasons. During the week he would prospect for candidates for his lunch; three people that he could bring together for their mutual benefit. For example, on one particular Friday he may invite a chef who had a vision for a new restaurant, a banker who he knew could see that vision, and, knowing that money isn't enough, a construction manager

who had a good reputation for bringing in similar projects on time and on budget. The lunch would last almost an hour and at 12:45 p.m., he would simply pay the bill and leave.

Leterman was an insurance salesman, but he never used these meetings to sell insurance. In fact, he would be offended if the topic even came up and simply ask them to make an appointment with his assistant the following week. He hosted these networking lunches every Friday, 50 weeks of the year,

for more than 10 years, and never sold an insurance policy at any of these meetings. Despite this, Leterman set sales records that lasted for decades; what his networking program did for him was simple: it created a fan base that would not buy from anyone else and would recommend him at any opportunity. And it did this because he didn't use his networking program for a hidden purpose, and he never directly asked for anything in return.

This was well before modern social



Getting Started with Twitter

1. Create an account at www.twitter.com. Just like other social media sites this will require your email address and you will receive an authentication email.
2. Add your profile, link to your blog, company website or your LinkedIn page.
3. Twitter messages are called tweets; these are limited to 140 characters. Write at least three tweets.
4. Now follow people. Find people with similar interests such as "actuary" by using the search box at the top of your Twitter home page. Once you follow people, their tweets will appear in your timeline and you will see what they are saying. If they follow you back, they will see your tweets. I recommended writing at least three tweets first; this way if someone is interested in following you they will see that you have written something.
5. Get into the habit of tweeting regularly. Keep to a particular area of interest; if you have two potentially diverse audiences you may think about having two accounts. You may find that you have more to say when attending meetings, so this is a good time to get started.
6. Find a mobile app that you like—personally, I like Hootsuite; appsforactuaries.com has more recommendations.



Getting Started with Facebook

1. Create a personal account at www.facebook.com by entering your basic details and clicking "Sign Up."
2. You will receive an email activation link; click this to access your new Facebook account.
3. Click on the "Edit My Profile" link, located near the upper left-hand corner of the screen. Complete as much information as you are comfortable with, including uploading a profile picture.
4. Add friends by clicking on the empty white box near the top of the Facebook window. Type in a friend's name to see potential friends. Click "Add Friend" on a friend's page. Once your friend request is confirmed, the person you friended will be linked to your friends list.
5. Create a Company page by clicking on the "Create a Page ..." link at the bottom of the left-hand menu and following the steps.
6. Upload picture and general comments that you wish to share with your friends.

networking tools, in fact these records were set during the Great Depression of the 1930s (generally a poor time for setting sales records); the key principles of Leterman's approach to networking are as true today as they were in the 1930s. However, there are a couple of myths that now come up when discussing social networking that first need to be discussed.

SOCIAL NETWORKING MYTHS

Myth #1: Networking is a numbers game. True, but it is also about quality. If Leterman had merely introduced people at every opportunity he would not have generated loyal fans, just acquaintances. Facebook "Friends" and LinkedIn "connections" have to have some connection to you to be of any value.

Myth #2: Social networks are for the younger, tech-savvy generation. Simply false; it is true that social media was originally pioneered by these younger, more technology-savvy individuals who seem to care little about personal privacy. But social media has come a long way; the platforms

have developed identities, and groups within these platforms connect specific demographics, and most importantly they have developed sophisticated privacy controls. Don't worry if you don't understand the acronyms used by kids online; they are unlikely to be the group you connect with.

Perhaps the most prevalent myth around social networking is that most of its value is around using it for selling. Social media, just like traditional networking, is used for a wide range of reasons. In this article I am going to focus on just three of them: self-improvement/mentoring, recruitment and sales.

USING SOCIAL NETWORKING FOR SELF-IMPROVEMENT

Despite having a role that involves selling, I primarily use networking to seek advice, much in the same way one would benefit from having a mentor. As an entrepreneur working in a small company, making connections with your peers is invaluable as you often won't have someone in your company that you can go to for advice. Even

someone working in a large company may find the need for particular expertise that is not available in their organization.

Here's an example of how this can evolve: a couple of years ago I was introduced to Tim Fitzpatrick, CEO of Virtgate, at a crowded SOA reception. Tim, a seasoned traveler and networker, was clutching his iPad, and after chatting for a few minutes Tim asked if I was on LinkedIn, I said I was and within seconds Tim had my profile open on LinkedIn to confirm he had the right Kevin Pledge and we were connected. Our conversation probably lasted 15 minutes and I recall little of that conversation or any others that evening. However, Tim and I were connected on LinkedIn, and I could see his experience, areas of expertise, and interests. I see LinkedIn as an invitation to follow up and keep in touch; connecting on LinkedIn is not the end of a process that simply adds people to my list of contacts.

Over the past couple of years I have been able to bounce ideas off Tim and

get feedback from him, usually in person when our travel plans sync up. LinkedIn was critical in this process as I could see that I would benefit from advice from Tim and it provides a tool to manage relationships like these. But LinkedIn is not the whole story; it is important to find the right balance

between electronic communications and meeting in person.

Another person I turn to for advice is Laura Bennett, CEO of Embrace Pet Insurance; Laura and I worked together about 12 years ago. Aside from the occasional actuarial

meeting, I keep up to date with Laura through Facebook and Twitter. Laura is a good example of someone who employs a wide range of social networking tools, each for a specific purpose, and also includes direct person-to-person networking in her skill set. One area I believe Laura has become an expert in is using social networks for recruitment.



Getting Started with LinkedIn

1. Create a personal account on LinkedIn at www.linkedin.com. Enter the basic information requested and then click "Create my profile."
2. You'll then be provided the option to "See Who You Already Know on LinkedIn" or you can simply choose to "Skip this step" (recommended).
3. You will receive a confirmation email that will direct you back to a login page.
4. You will have the option to choose a Premium (paid) account or Basic (free) account. Start with Basic, although it is worth looking at the paid options later.
5. Now edit your personal information; enter as much information as possible. It is helpful to review your profile; you can export your profile to PDF with the option under the Edit dropdown menu. This should look like your resume.
6. You may add a Company Page. Company Pages feature a logo, description and links to employees.
7. Add connections by searching for people you know; it is possible to import your contact list, but be wary of inviting everyone on your list. Clicking add a connection will send a request to that person to connect with you.
8. Join groups—you may find groups by searching your interests or see what groups your connections belong to. Some groups, such as SOA Sections, are members only; meaning that your request to join will be approved by an administrator; other groups have automatic membership.
9. Join in discussions—it is probably easiest to start by commenting on an existing discussion, but you can also start new discussion threads or simply "like" a discussion topic you find helpful.

USING SOCIAL NETWORKING FOR RECRUITMENT

LinkedIn is THE social network for recruitment. For someone looking for a job, it is your online resume. For a potential employer it provides additional data points publicly available with endorsements and references; features that make it more reliable than any resume received directly. In addition to LinkedIn, other social networks may show comments or viewpoints that may not be compatible with your team or customers. And there is no escaping it; if you are applying for a technology-based role, a potential employer will expect to see some form of social network presence.

Social networks can also be used proactively for recruitment; Laura Bennett provides a good example of this. Even when she is not actively recruiting, Laura builds her network of connections knowing that one day these will be useful. When a position needs to be filled, LinkedIn is an extremely powerful tool for searching her connections for people with the skills she is looking for or for people who can introduce her to someone with these skills.

When asked how face-to-face networking and social media interact, Laura replied that "one clearly doesn't go without the other." If you know Laura, you will know this is true; she is not the sort of person who sits behind her computer screen friending or connecting with people in the expectation that this will pay off. Anyone who connects



Other Social Networks You May Consider

Pinterest (www.pinterest.com): a fun site for sharing pictures of things that interest you. It is often used for recipes and shopping, but I use it to post pictures of conferences and interesting marketing things.

Google+ (www.plus.google.com): this is Google's answer to Facebook; circles give you more control over who sees what.

Instagram (www.instagram.com): a social network for sharing pictures from Android and iOS.

... and there are many more. A good way to find social network tools that suit you is from the SOA LinkedIn discussions.

with Laura shouldn't be surprised when she picks the phone up or runs up to you at a meeting—once again, I use this to illustrate that successful social networking does not define the relationship, but is a way to manage relationships when you cannot connect directly.

Laura also explained that it is a myth that LinkedIn is only for executive positions; she finds it useful for all levels of recruitment. This may be because she does not rely exclusively on LinkedIn, but rather combines LinkedIn with other social networks and all-important personal contact.

In his latest book, *To Sell Is Human*, Dan Pink makes the point that we are all selling in one way or another. He includes the example of selling yourself to an employer, as well support for ideas. In the final example, I am going to primarily talk about selling products or services, but comments here may also be true in a broader sense.

USING SOCIAL NETWORKING FOR SELLING

A sales process typically starts with establishing one's expertise and reputation

in a particular area. People buy from people they trust and believe are experts in the area that they need help; social networks such as LinkedIn provide an avenue to establish one's area of expertise. Not only comments you make, but also what your customers say about you can be seen on LinkedIn. This does not replace traditional ways to establish one's expertise such as references, publishing articles and presenting at meetings; it merely supplements them.

The next step is introductions; social networks provide a way of making introductions, but having someone on a social contact list is not sufficient, you have to have some personal connection with the individual. Social network tools provide a connection to someone before you meet them in person; comments you have made on social networks may give you common ground and after following someone's Twitter feed, you often feel you know them before you even meet.

Finally, there is following up from a meeting. I've been at many networking events where I meet someone, we have a pleasant conversation for a few minutes and then

they try to sell me something. It is awkward and unpleasant; it may be as subtle as him or her asking if they can follow-up next week or a direct, full-out sales attempt. Social networks provide a way to manage connections you make while avoiding the need to push a product or service there and then. No matter how good your product or service is, it doesn't matter if the time isn't right for the customer.

To sum up, the rules for social media are simple: be honest, be yourself, and above all, use social network tools to supplement personal contact, and use the tool you are comfortable with. Don't approach social media with a hidden agenda—it won't work. One of the most cited quotes on selling is, "personality can open doors, character keeps them open." Thank you Elmer Leterman for this quote, which is as true today with social networks as it was 80 years ago. **A**

Kevin Pledge, FSA, FIA, is CEO and co-founder of Insight Decision Solutions, Inc. He can be contacted at kevinpledge@gmail.com or found on twitter [@kevinpledge](https://twitter.com/kevinpledge).

Are Black Swans Real?

Tips for Better Recognizing, Assessing and Responding
to Emerging Extreme Events

BY TOM HERGET WITH ASSISTANCE FROM GUNTRAM
FRITZ ALBIN WERTHER AND RONORA STRYKER





ARE THERE TRULY SUCH THINGS AS BLACK SWANS? OR ARE THEY EXTREME EVENTS THAT CAN BE FORESEEN? THIS ARTICLE HELPS YOU DECIDE.

A year ago I was enjoying dinner with a new acquaintance, Professor Guntram Werther. Werther, a strategic management professor at Temple University in Philadelphia, was talking about his experience in consulting with governments, military and industry on ... well, let me paraphrase it as predicting the unpredictable. His grasp of current events and their implications made me feel as if I were reading next week's edition of *The Economist*. I mentioned, how interesting, the Society of Actuaries has just posted a request for research project proposals on minimizing, managing, and/or mitigating extreme event risk. When I said the research objectives included how to use the findings in Nassim Nicholas Taleb's book *The Black Swan*, Werther nearly went off the charts. Werther took a strong contradictory viewpoint to the black swan concept, expressing that many of these large-scale, large-impact rare events (LSLIREs) can well be predicted.

With that level of conviction and enthusiasm, I thought it would be good if members of our profession could learn his viewpoints and methods. Werther's livelihood focused on looking at the past to see what would not happen in the future as well as looking at the past to spot what would change in the future. Knowledge of his techniques for spotting emerging risks would benefit all members of our profession.

My role in this research report was to prepare the proposal, guide it into our workspace,

and then ensure that the professor stayed within the bounds of finance.

After six months of focused effort, this research report, "Recognizing When Black Swans Aren't: Holistically Training Management to Better Recognize, Assess and Respond to Emerging Extreme Events," is now ready for perusal by our membership.

Werther expresses his viewpoints in four sections: defining and identifying a black swan, assessing the strengths and weaknesses of Taleb's case, methods for identifying LSLIREs, and techniques for better recognizing LSLIREs.

The research paper includes a four-page glossary of terms to help actuaries and others better understand the terminology used throughout the report.

Not only will you benefit from Werther's experience and outlook, you will also get the flavor of rare event viewpoints from historical figures such as Carl Jung, Aristotle, Isaac Newton, Gottfried Leibnitz, Lao Tzu, Confucius, Nietzsche, Albert Einstein, Karl Marx, Adam Smith, Immanuel Kant, Alexis de Tocqueville, Osama bin Laden, Rick Rescorla, Goethe, Donald Rumsfeld, Jack Goldstone, Vaclav Havel and even Inspector Clouseau.

The East German-born professor's writing style is conversational and often reads like an investigative adventure story.

Like a true educator, Werther states the learning objectives for the research paper:

- Black swan definitions currently in use.
- Implications of usage of black swan concepts.
- Taleb's important influence on this topic.
- Criticisms and support of Taleb's concepts.
- Distinguish between true black swan events and the LSLIREs.
- Current methods for trying to detect black swans and LSLIREs.
- Review why some of these methods have failed.
- Review the state-of-the-art for forecasting LSLIREs.
- Consider what a better forecasting solution looks like.

While I will leave the storytelling to Werther, this article provides a brief synopsis of some of the characteristics, attributes, practices and perspectives needed to foresee LSLIREs.

SECTION ONE: DEFINITION OF BLACK SWAN

Werther introduces the reader to many different definitions of a black swan event in use today including Nassim Nicholas Taleb's idea as defined in his 2007 book, *The Black Swan*, which is an event that is outside the realm of regular expectations, carries extreme impact, and can be predicted retrospectively. He further critiques Taleb's concept and shows how others are using

or misusing the term. He points out that many have changed the definition of a black swan from its initial concept, even Taleb himself! While there are many definitions for a black swan event, there are people who predicted such events prospectively while the mass failed to recognize them. Thus, if analysts can be better trained to recognize LSLIREs, where these events are farther out on a probability tail than routine forecasting targets, the timing of the event is harder to identify than routine forecasting targets

shifting internal and external forces. Holistic approaches are better able to detect these qualitative changes and assess system-specific patterns leading to insights about the shifting forms.

Werther notes that not everyone is good at holistic thinking and assessment needed for identifying LSLIREs. Those that are the better holistic analysts have common characteristics. Among them include a general education in human affairs and

SECTION TWO: ASSESSING THE STRENGTHS AND WEAKNESSES OF TALEB'S CASE

In this section Werther builds on his critique of Taleb's black swan concept and provides a strength and weakness assessment of Taleb's philosophies, methods and factors from his 2007 book that impact the recognition, assessment and response to black swan events. Werther cites real-life examples of black swans that aren't. He refers to an 1856 forecast of civil war in America pending the outcome of the 1860 elections. He goes into great length to reveal how easily the Lebanon strife in 1975 could be foreseen. Werther reveals how security expert Rick Rescorla could so easily foresee an attack coming on his World Trade Center buildings, he actually practiced evacuations with his clients prior to 9/11.

In foreseeing LSLIREs, holistic approaches are superior to a single disciplined assessment/model ...

and the qualitative element of judgment increases in importance than routine forecasting targets, the occurrence of black swan events will decrease.

Werther begins to build the framework for LSLIRE emergence recognition, assessment, forecasting and management. While all methods/models are tools that yield a view among many possible views and because every method is a system of bias, they rarely produce the correct answer. Therefore, since each tool is biased, selecting the appropriate tool is important.

In foreseeing LSLIREs, holistic approaches are superior to a single disciplined assessment/model as they bring in human involved factors and synthesize information from multiple bias systems in an iterative process leading to a fusion of the different beliefs/systems in the results. Before LSLIREs emerge, there are qualitative changes from

knowledge in many things which requires endless learning to keep up this skill.

Being able to perform two-stage thinking is another characteristic. One stage is to think intuitively or fast. For example, being able to recognize familiar elements in a new situation and draw upon experience to provide a valid intuition. The other stage is a deliberate or logical reasoning thinking process which requires more time to arrive at a conclusion.

Being able to differentiate knowledge from understanding is another trait. These individuals have the ability to distinguish the judging of individual fact from statistical fact. They are also able to unify knowledge and understanding per a given situation.

Lastly, these individuals are able to develop the "string" that ties together the knowledge, facts, intuition, experience and understanding.

Don't see the world like a naïve turkey. Complex system forecasting requires a sophisticated mindset and understanding. Werther discusses that LSLIRE forecasting analyses need to include proper situational awareness, lessons from history, multiple perspectives, cognitive shifting, intuition and insight into multiplayer/multifactor intentions and their implications and shifting contexts as well as integrating other information.

One might think that it cannot be done as most analysts do not adequately learn the meta-rules of a system, consider what they don't know, or achieve sufficient skepticism about change. However, Werther recognizes many individuals in the paper, such as Rick Rescorla, who have achieved this multidimensional type of thinking that leads to recognition of system shifts, changes to



Recognizing When Black Swans Aren't

“Recognizing When Black Swans Aren't: Holistically Training Management to Better Recognize, Assess and Respond to Emerging Extreme Events,” by Guntram Fritz Albin Werther with the assistance of Tom Herget, is now available on the SOA website at www.soa.org/blackswans/. There you will also find a Power Point presentation that will help you present this research to colleagues and peers.

the composition of the whole structure and the emergence of LSLIREs.

Others, including Taleb, might think that it is all luck to foreseeing LSLIRE/“black swan” events. Yet Werther notes that randomness, chaos or chance is not involved in LSLIRE recognition. There are individuals who can consistently be the elite in their field such as Wall Street analysts who have received the Best on the Street recognition year after year. Luck might be involved with one-time winners, but luck/randomness does not factor into it year after year. The only logical answer is these individuals have superior learning, experience, skills and a different way of thinking over their peers. One way of becoming better at forecasting LSLIREs is to look at the attributes and practices of successful analysts, which is one of the things Werther does in the next section.

SECTION THREE: MOVING TOWARD SOLUTIONS THAT BETTER FORECAST LSLIREs

Continuing examining serially successful analysts and others who have achieved excellence in their field, Werther points out that being accomplished in an area is serious work and requires time to build experience. LSLIRE emergence recognition

is also serious work, but individuals need to have a broad common sense and experience just to get into the game. While these individuals are dealing with events far out on the statistical tail, they still need to be able to know what “normal” looks like in each system and among them to recognize a LSLIRE.

In complex systems forecasting, having broad experience improves comparative abilities in recognition and encourages multiple perspective thinking. Knowing why something works one way within a specific context versus other ways in different contexts is important and will lead to the LSLIRE analyst understanding how things fit and their limit and possible/impossible potentials. In addition, Werther suggests a broad knowledge of comparative values, religions, philosophies, politics, history, and other areas will help LSLIRE analysts build a societal behavior profile that is needed to evaluate societies and how they react to change pressures and processes.

Werther points out that LSLIRE forecasting experts need to focus on patterns first then facts. The problem with the facts is that there are too many of them, each embedded in dynamic adaptive complex systems.

Given all the facts, it becomes harder and harder to know which fact matters when, how, why and in what context. Yet, it is natural for humans to learn and experience patterns which make it easier to identify deviations in them. For example, driving a car or walking is a recursive pattern/action. Deviations can be identified if something doesn't fit the expectation. A deep understanding isn't even necessary. In emergent LSLIRE environments, using familiarity, experience and judgment can identify deviations in patterns that can be signals for a coming crisis.

Following mainstream models, methods and mentality will lead to failure in LSLIRE recognition. To be a good LSLIRE analyst, one needs to have the courage to think independently and be a contrarian to see the emerging landscape. If an individual follows the status quo and becomes a member of the herd, he will have a much limited view just seeing what is directly in front of him. Yet herd-like behavior of analysts and their failure to foresee the emerging, changing landscape helps identify the timing of the emergence of the LSLIRE.

SECTION FOUR: BETTER RECOGNITION AND TIMING OF AN EMERGING LSLIRE

Werther answers the question of how mainstream analysts' failure can benefit LSLIRE recognition. He explains that near emerging crises, the herd mindset begins dissolving. As the crisis nears, there is increased divergence in mainstream analysts' ability to see what is happening. While they are unlikely to understand what is wrong when using their methods, more of the analysts begin to realize that something is wrong. The more



mainstream analysts' dissonances and model disturbances occur, the more consideration of emerging deviation in underlying systems and possible LSLIRE occurrence. Therefore, mainstream analysts' failure dynamics teach the time of the emergence of an LSLIRE.

To illustrate this point, Werther includes studies and examples related to the recent financial crisis showing how mainstream analysts' herd-like behavior diverged significantly as economic instability emerged. He also includes examples of how mainstream models acted unusually before a crisis. Therefore, don't ignore the signals!

In conclusion, Werther looks closely at Taleb's closing example. Taleb said, had 9/11 been conceivable, it would not have happened. Thus it was a black swan to Taleb. But it was a foreseeable event (an LSLIRE) to Rescorla and to others who were on the trail. Failure to act is not the same as failure to foresee.

Werther tells us the dots are out there. It is up to you to see them. It is up to you to connect them. It is up to you to choose to act on them. Read this research paper to learn how you can act daily to spot upcoming LSLIREs. After you read this report, you can judge if "LSLIRE" will become the most successful

acronym in the history of forecasting. My advice would be to buy your t-shirt now. **A**

Tom Herget, FSA, MAAA, CERA, is a retired actuary and current chair of the American Academy of Actuaries' Solvency Committee. He can be contacted at Herget411@gmail.com.

Guntram Fritz Albin Werther, Ph.D., is professor of Strategic Management, The Fox School of Business, Temple University. He can be contacted at Guntram.werther@temple.edu.

Ronora Stryker, ASA, MAAA, is a research actuary with the Society of Actuaries. She can be contacted at rstryker@soa.org.

What do you do when you're **out of the office?**


- **Collect** rare artifacts?
- **Play** an instrument, or
- Win ballroom dancing **competitions?**
- **Create** artwork?

The Actuary has introduced a new column called, "**Out of the Office.**" It is a place where you can showcase your talents, your community involvement, or extracurricular activities you participate in just for the sheer fun of it.

So, what are you waiting for? Send us a short paragraph providing some basic details about your out-of-the-office experiences, along with your contact information, and we'll be in touch. Visit <http://www.soa.org/pub-out-of-office>.



We look forward to hearing from you!



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HEALTH CARE IN AMERICA: A NEW WAY FORWARD

THIS ARTICLE SUGGESTS A PLAN THAT WILL ALLOW ACTUARIES TO MAKE A NOTICEABLE DIFFERENCE IN SOCIETY. BY KEVIN M. REOPEL

Editor's note: This is an abbreviated version of the complete article submitted for publication—much explanatory language has been removed due to space limitations. To more fully understand the proposal, please read the complete article at SOA.org/health/

DISCLAIMER: The views expressed below are those of the author alone. They do not necessarily represent the views of the Society of Actuaries, of any other body, or of any person other than the author, who is solely responsible for them.

In his presidential address at the Society of Actuaries 2011 Annual Meeting in Chicago, Brad Smith called on actuaries to speak out more about “societal problems that have substantial actuarial components.” He indicated that, if we “cannot articulate the problem [we] are trying to solve and the solution [we] are proposing ... [we] will become irrelevant.”

Brad is right. I see it in the management of insurance companies. If it hasn't happened with our state and federal policymakers, it soon will. I don't want our profession to become irrelevant. Do you?

Health care in America is an incredibly complex and costly “system” involving every one of us and greatly affecting our national economy. Even with the Patient Protection and Affordable Care Act of 2010 (PPACA), there's still more that must be done.



It is because of this—and also because I don’t want us to become irrelevant—that I would like to share with my fellow actuaries a proposed approach to health care in America and encourage a dialogue with actuaries and others. Given PPACA’s recent adoption, it will be difficult to convince policymakers to make changes before PPACA is fully implemented; but we need to try. These changes will take years to implement.

BACKGROUND

Health care costs in this country are increasing at a rate that our economy cannot afford. These costs are only going to increase further under PPACA, commonly referred to as “Obamacare.” In a recent *New York Times* article by Nate Silver,¹ the conclusions from his very informative analysis included the following paragraph:

The growth in health care expenditures, for better or worse, is not just a government problem: private spending on health care is increasing at broadly the same rates and is eating up a larger and larger share of economic activity. It’s an immensely complicated problem, but the arithmetic is simple: if we can’t slow the rate of growth in health care expenditures, we’ll either have to raise taxes, cut other government spending or continue to run huge deficits. Or we could hope to grow our way out of the problem, but health care expenditures may be impeding private-sector growth as well.

Yet, with all the money being spent on health care in this country, the overall health of our citizens is not as good as in many other countries. According to a recent report released by the panel of experts convened by the National Research

Council (NRC) and Institute of Medicine,² as of 2011, as many as 27 countries had higher life expectancies at birth than did the United States. Those other countries spend less per person on health care, but have healthier citizens.

Why? The report identified a handful of reasons, most of which could be classified as societal and can’t easily be addressed by new legislation or programs. But one primary reason identified in the report is our inefficient health care “system,” the main deficiency of which that was cited is the lack of “universal coverage.”

In this author’s humble opinion, it’s also because, in America, health care providers are compensated for treating illnesses, not for preventing illnesses. So Americans get illnesses more frequently, and we pay more and more for treatments. This also is why most young medical doctors do not choose primary care as a specialty—they realize that, especially relative to other specialists, they lose out financially.

Recognizing the growing pressure on our economy, of the growing costs of health care, the Business Roundtable, a lobbying group representing America’s blue chip corporations, recently recommended to President Obama that the minimum age for Medicare be raised from 65 to 67.³ To adopt this change—one way to reduce spending on federal government “entitlement programs”—would only shift the responsibility for paying health care costs at ages 65 and 66 either fully to the individuals themselves if unemployed or, if they are still employed or under an employer’s retiree health plan, to both the individuals and their employers. But the costs will continue to grow, no matter who is required to pay them.

When Silver suggested where these rising costs might lead (in his second sentence of the quote), he apparently overlooked another real possibility. It’s possible that, unless our societal attitudes change dramatically, our Congress will eventually succumb to the legislative path of least resistance: universal health care. That could put a lot of health insurers—and their actuaries—out of business. It also might mean re-employing a large number of health care providers as employees of the federal government. That would not seem to be an acceptable result—for either the people directly involved or our nation as a whole. Do we really want our federal government to be responsible for our health? As actuaries, we must present a better alternative.

OVERVIEW

The next section explains the rationale for the various features. This should make it easier to ultimately see how the features fit together.

After the features will be a walk-through of how the proposed new system is expected to work, then discussions of potential implications of the new system and, last, how we might proceed to advocate its implementation.

FEATURES OF PROPOSED NEW HEALTH CARE SYSTEM

The three issues that seem to need the most attention are:

1. Improving the overall health of Americans;
2. Lowering the yearly average cost of health care per patient; and
3. Providing access to reasonably priced health care for as many Americans as possible (all, if possible), especially



including people with pre-existing conditions.

There is a fourth issue that hasn't attracted quite as much publicity as the first three. It has to do with the employers' part of, as Silver put it, the "private spending on health care." The increasing costs of employer-sponsored health care plans have pressured employers into making unpleasant choices that generally have not been favorable to employees.

Improving Health and Lowering Costs.

To address issues 1 and 2 (page 26), we need a health care system in America that emphasizes wellness and preventive health care from the date of conception. We cannot expect everyone to keep up with, understand, and properly use the latest medical information on treatments, nutrition, lifestyle, and other subjects relating to wellness and health. Normally, one's primary care physician (PCP) is the professional best qualified to know what's best for the patient's particular situation.

We need to engage each person's PCP more actively in the design and long-term management of the patient's wellness program. This means having a closer and longer-term professional relationship with the patient, in order to develop a strong level of trust and influence with the patient.

We can compensate health care providers—especially PCPs—to prevent illnesses as well

as treat them. There is a way to do this; but in order to do it effectively, we need to have electronic access to complete and up-to-date patient medical records, including associated cost data.

Electronic Medical Records. PPACA does include some useful provisions, and mandating the development and maintenance of electronic medical records (EMRs) is one of them. Since the private sector is not getting it done, we need to make it mandatory.

No Copayments or Deductibles. If the PCP is going to be more engaged in the goals of long-term health and wellness management for the patient, the PCP will decide when to see the patient, and copayments and deductibles will work against these efforts. And the attendant administrative expenses also can be avoided.

Risk-Adjusted Capitation Payments.

Compensating PCPs for preventing illnesses means not only compensating them for seeing and treating patients, but also rewarding them financially for actually improving the health of their patients.

A process can be developed for calculating patient-specific risk-adjusted capitation amounts to be paid, by the health insurer to the PCP, for each patient under the PCP's care. (It also can be used to calculate risk-adjusted health-insurance premiums to be paid to the health insurer.) Without EMRs, performing this task for everyone would be impossible.

This requires the PCP to find the most cost-effective means locally for providing quality health care for his/her patients. In effect, the PCP becomes the patient's "general contractor" for all medical services not performed directly by the PCP. After all, who is better situated to do this?

Full Coverage. This means that the PCP is managing and coordinating all the covered medical care for the patient. But what's covered?

Basically everything, with the probable exceptions of dental and vision care, is covered—"cradle to grave." Also, it's expected that not-medically-necessary or -approved treatments (like elective, cosmetic, and experimental treatments or surgeries) and accommodations (such as private and semi-private hospital rooms) would not be part of the new plan.

This "full coverage" part of the proposal may seem controversial—even irresponsible. But let's think about it. What health care services should be excluded beyond the examples just mentioned? OK, perhaps the knee replacement for the 94-year-old patient with severe Alzheimer's that Brad talked about in his 2011 speech. Any other arbitrary restrictions on coverage will undoubtedly be subject to strong public criticism.

This is where a blue ribbon panel, representing all major stakeholders, can be used to identify the kinds of medical treatments that should, and should not, be part of this plan. There should be situations where common sense dictates that we draw the line on "full coverage."

Periodic Capitation Payments. Each year, the patient's health factors are reassessed by inspection of the EMR and a new risk-adjusted capitation payment is received by the PCP.

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If the patient's risk assessment improves, the capitation amount for the next year might actually decrease with the lower expected costs for treatment. As a way for the PCP to profit from helping the patient's health to improve, however, the capitation calculation can be modified to not fully reflect the improvement in risk assessment in the capitation-amount calculation. This way, the PCP shares financially in the benefits of improving patient health.

If, instead, the patient's risk assessment worsens, then the risk-adjusted capitation-payment amount may rise to reflect the additional

then use of the Internet seems to be the most efficient platform. And, speaking of access. ...

Access, for All, to Reasonably Priced Health Care. For issue 3 (page 26), we all know that there are pooling options in addition to the ways provided in PPACA. Asking a patient with very high expected health care costs to pay an equitable premium for the coverage might politically be a tough sell. (Brad's anecdotal story about the AARP in his 2011 speech comes to mind.)

There is a way to pool all the risks and yet allow the health insurers to be paid risk-

This proposed plan for health care would replace all existing private health insurance (providing the same benefits and services) and all the health care benefits of Medicaid and Medicare.

Employer Costs. For the fourth issue mentioned earlier, one option would be to no longer require that employers pay for such costs. More on this later.

Medical-Malpractice Insurance. A way to align the interests of both the health care provider (HCP) and the health insurer—and to improve cost efficiency—is to make the health insurer accountable to the patient for the quality of health care, which requires the health insurer to bear the medical-malpractice (med-mal) risk directly.

There is a way to pool all the risks and yet allow the health insurers to be paid risk-adjusted premiums per patient. ...

expected costs for treatment over the next year. However, there also is logic to the notion of not passing along the entire increase in capitation amount due to the worsening of risk assessment.

In any situation where a patient changes to a new PCP, the initial capitation payment to the new PCP would fully reflect the patient's then-current risk assessment. This raises the question of how a person chooses a PCP and a health insurer. ...

Health-Insurance Exchanges. Having the PCP-patient relationship terminated by a change in employer only inhibits the effectiveness of the new plan. So the nexus of the health care plan should move away from the employer.

The development and maintenance of state-by-state Health-Insurance Exchanges (HIEs) is another provision in PPACA that makes sense. And if the goal is to provide access to everyone,

adjusted premiums per patient and also, in turn, pay risk-adjusted capitation payments to the PCPs. (Just think Medicare.)

Federal Tax Collector and Premium Payer. We enlist the existing capabilities of employers and the federal government only as facilitators, to collect a flat-percent payroll tax just like the Medicare payroll tax. It's only a matter of changing the tax rate.

The federal government, in turn, redistributes the revenue from that payroll tax to pay every health insurer the aggregate amount of all risk-adjusted premiums to be charged for all patients, nationwide, covered under their plans. Each health insurer, in turn, uses that premium revenue to pay each affiliated PCP the aggregated risk-adjusted capitation payments for all patients with that health insurer.

How high might that payroll tax rate be? My guess is between 10 percent and 15 percent.

PUTTING IT ALL TOGETHER: HOW IT WILL WORK

Once the new system (including all HIEs and EMRs) is in place, it is envisioned that:

- A. All Americans will go to their state's HIE to select a health insurer and a PCP.
- B. Payroll taxes are automatically deducted from employer payrolls and paid by the self-employed just as they currently pay Medicare payroll taxes.
- C. The federal government receives the payroll-tax revenue and, in turn, redistributes that revenue to health insurers as aggregated risk-adjusted premium payments.
- D. The health insurers, in turn, make risk-adjusted capitation payments to each PCP.
- E. As each patient visits the PCP or another HCP, or picks up a prescription, the patient's EMR is updated.



- F. Periodically, health insurers access the EMRs for their covered patients for analysis and for development of rate filings.
- G. State insurance departments can survey EMRs for state-level analyses of medical data.
- H. Likewise, federal agencies can survey EMRs for all U.S. residents to perform nationwide analyses of medical data.
- I. As time progresses, it is expected that the initial payroll-tax rate will need to be adjusted. This would likely require occasional Congressional action.

POTENTIAL IMPLICATIONS OF THE NEW HEALTH CARE SYSTEM

This proposed new system attempts to address all the inadequacies of Obamacare—and, in addition, actually lower the average per-person cost of health care by seeking the most cost-effective and health-effective health care system possible for all of us.

In addition, the proposed new system is designed to run entirely outside the government (except for its role as facilitator), removing the costs of health care from the state and federal budgets so that our Congress finally can address our growing national debt.

Winners and Losers. The lower-income taxpayers (and those with no taxable income) gain the most. People with pre-existing conditions also are big winners.

But everyone can see that flat tax rate of, say, 10 percent, and work to get it down. As the average health of Americans improves, that rate will inch downward over time. Then, everyone wins.

Capitation Was Not Successful in the Past—Why Should It Work Now? In the

past, under the label of “managed care,” capitation had two weaknesses:

1. The health insurer, not the PCP, was viewed as deciding where the patient could go for specialist and hospital care. Patients decided that the distant and faceless insurers were only concerned about profits and were not qualified to be responsible for their health.
2. There were other options available in the free and open market that did not require “insurer pre-authorization to see a specialist of your choice.”

Under the proposed new health care system, the decision for care beyond the PCP is made jointly by the PCP and the patient. And there will be no other health-plan options available to patients.

State-mandated Additional Health Care Benefits. It’s always possible that some states will want to mandate additional features to the standard plan offered nationwide. The states would need to make separate arrangements for payment of these premium amounts to insurers.

Employers Contributing Part of Their Employees’ New Health Care Payroll Tax. The flat-X percent-per-taxpayer cost for everyone is so transparent that any employer sharing of the X percent payroll deductions also will be transparent to employees. Letting employers decide how much of it they want to (or can) contribute for their employees would let the free and open market decide.

NEXT STEPS TO SEEK IMPLEMENTATION OF THE NEW HEALTH CARE SYSTEM

This is an opportunity for actuaries, as a profession, to make a difference in our

society that the public really notices—to be relevant. Health actuaries that work—or consult—for health insurers need to convince the health insurers that this is in their best interests. Also, the medical community needs to actively support this new approach.

If these two bodies were to combine their efforts for this cause, we might bring about the needed changes. **A**

Kevin M. Reopel, FSA, MAAA, is a consulting actuary and expert witness through Actuarial Litigation Consulting. He can be reached at KMR@ALC123.com or kevin@reopel.com.

ENDNOTES

- ¹ Titled, “What Is Driving Growth in Government Spending?” published online Jan. 16, 2013, at <http://fivethirtyeight.blogs.nytimes.com/>; titled, “Health Care Drives Increase in Government Spending,” published Jan. 17, 2013, in the *New York Times*, on page A16.
- ² Report titled, “U.S. Health in International Perspective: Shorter Lives, Poorer Health,” released Jan. 9, 2013, and reported on by Jacque Wilson in the CNN article, “Why Americans are dying earlier than their international peers,” published online Jan. 9, 2013, at 8:12 p.m. ET.
- ³ Call to raise age for US’s Medicare,” by James Politi, *Financial Times*, published online Jan. 16, 2013, 11:04 p.m. ET.



HOW SHOULD THE SOA REACT TO THE CIA'S UNIVERSITY ACCREDITATION PROGRAM? A U.S. ACADEMIC'S PERSONAL VIEW

BY JAMES E. TRIMBLE

The Canadian Institute of Actuaries (CIA) board approved a University Accreditation Program (UAP) in March 2011. Rob Stapleford wrote an excellent article describing the UAP and the work that went into the development of the program that was published in the August/September 2012 issue of *The Actuary*. In that article, Rob states that, "Beginning in September 2012, accredited universities will be able to offer courses which will provide students with the option of applying to the CIA to gain exemptions from writing the examinations." The preliminary examinations for which exemptions may be granted are FM, MFE, MLC and C. Ten Canadian universities have been accredited by the CIA.

Rob also wrote, "Many participants in the accreditation process identified that some form of recognition from our education partners is a key step in the long-term success of the UAP. Therefore, gaining recognition and acceptance from the SOA/CAS of CIA exemptions is a top priority for the CIA."

I am writing this article to express my opinion that the SOA board should recognize the waivers that the CIA grants for credit for preliminary examinations to students under their UAP, provided that the SOA has an active role in the oversight of the accreditation program. Given the SOA's decades-long experience delivering education in a variety of ways, I believe that the CIA would welcome the SOA's participation.

The SOA's 2013–2016 Strategic Plan lays out a path to foster membership growth globally, enhancing the value of our credentials individually and collectively. To realize this

plan, the SOA must recognize national differences, and it should be open to alternative educational methods employed in different countries, provided they do not diminish the value of the SOA credentials. Indeed, the SOA already recognizes this by granting waivers for SOA examinations for credits granted by the U.K. and Australian actuarial organizations, including those credits that were acquired through accredited university programs.

The CIA appears to be implementing a robust system of oversight, similar to the U.K. and Australian processes. The Canadian UAP program only grants credits to top-performing students in accredited actuarial programs in major Canadian universities. Rob's article states that, "The AC (accreditation committee) concluded that the expected number of students who will receive exemptions will likely be less than the proportion of students who pass the traditional examinations." Some readers may be skeptical of that claim. My experience as a university professor over the last three years leaves me with little doubt that it is accurate. Over the three years that I have taught financial mathematics, 100 percent of the students who achieved an A or A- in my class passed exam FM shortly after finishing the course. Naturally, some students who earned a lower grade also passed the actuarial exam. So, hypothetically if the bar for exam waivers were set at a grade of A- or better in my class, the evidence strongly suggests that the percentage of students achieving the waiver would be less than the percentage of students who would pass the exam. Further, my evidence also suggests that the students granted the waiver would be deserving of the waiver.

I have discussed these results with faculty teaching actuarial courses at several other universities, including the University of Manitoba, Penn State University and the University of Waterloo, to name just a few. All reported similar results for their courses. The CIA applied just this sort of analysis in order to set minimum exemption grades for each course in each university. Therefore, the risk of devaluing the SOA credential through recognition of CIA credits is extremely low. Were the SOA board to adopt my proposal, this risk would be monitored and controlled through SOA participation in monitoring of the accredited university programs.

U.S. and Canadian actuaries have had a special relationship through the SOA for a long time. If the SOA chooses not to work with the CIA with respect to the Canadian UAP, then it risks damaging that special long-term relationship and losing future Canadian members and volunteers over the long run. That would be a most unfortunate outcome, especially in light of the SOA's strategic plan to become a more global organization. Moreover, the risk of that outcome far outweighs any risk the SOA would take by recognizing credits the CIA grants to students in accredited universities through its UAP. I urge the board to give serious consideration to working with the CIA in this important educational development. **A**

DISCLAIMER: The views expressed in this article are those of the author alone. They do not necessarily represent the views of the Society of Actuaries.

James E. Trimble, FSA, CERA, MAAA, is director, Actuarial Science Program, University of Connecticut. He can be contacted at james.trimble@uconn.edu.

A STRATEGIC LOOK AT UNIVERSITY ACCREDITATION

BY MARCUS ROBERTSON

AT ITS OCTOBER 2012 MEETING, the SOA board of directors approved the SOA's 2013–2016 Strategic Plan, which can be found at SOA.org/strategicplan/. A key element of the SOA's Strategic Plan is the emphasis on the promotion of SOA-specific credentials and SOA's education pathway.

In support of the SOA's education pathway, the board set the objective to provide globally accessible and state-of-the-art education and validation. For greater clarity, this objective was defined by the board in the following

In support of the SOA's education pathway, the board set the objective to provide globally accessible and state-of-the-art education and validation.

words: "To attract the best and brightest around the world to study for, invest in, and complete our credentials, we will provide education, including testing materials and support that is globally accessible and easy to use. We will provide cost-effective superior education and validation of mastery in selected markets through our state-of-the-art

learning infrastructure and in collaboration with strategic partners."

So, what does this mean for future education initiatives? Over the past several years, we have seen many changes in the delivery of basic education for actuaries. Current candidates experience several styles of education and validation (testing), including:

- Validation by Educational Experience (VEE) where candidates study and are tested on economics, corporate

finance and applied statistical methods through approved courses at colleges and universities and other educational providers;

- Preliminary high-stakes multiple-choice exams that are administered at exam centers;

- The Fundamentals of Actuarial Practice (FAP) Course, an e-Learning course where candidates are exposed to all practice areas, receive an educational experience that addresses various learning styles and are tested by way of six assignments that are self-evaluated and graded and by two multi-day assessments that are graded by volunteer actuaries;
- Fellowship high-stakes essay exams that are administered at exam centers;
- Fellowship e-Learning modules with end-of-module exercises that are self-evaluated and graded; and
- Seminar courses (the Associateship Professionalism Course, the Fellowship Admissions Course and continuing professional development education courses) that are offered frequently in locations around the world.

To provide the best possible education, the Education Committee, along with SOA staff, is continually looking at ways to improve candidates' educational experience while



Marcus Robertson

maintaining the standards our members and the public expect.

One idea that surfaces from time to time and always creates a lot of discussion is granting exam exemptions upon a candidate's successful completion of accredited university courses. Unfortunately, the discussion about exam exemptions is usually focused on validation issues (formal high-stakes testing performed by the profession versus assessment of the candidates' performance at the universities) and not on the educational merits of the university courses. We can't ignore validation, as we are a credential-granting organization and we have standards to maintain, but it is time we separate education from validation and consider the relative merits of university and self-study education.

Is there an approach that can provide a superior education and help the SOA achieve its strategic goals?

Proponents of university education argue that:

- Courses are usually structured to ensure that students cover the required material by the time of validation (test);¹
- Teachers are able to assist students by explaining concepts that may be difficult to understand by merely reading syllabus materials;
- Teachers are knowledgeable about the subject area and, in the case of actuarial science teachers, often have business experience;
- Teachers are able to adapt their teaching to suit the situation (small

class versus large class, less capable versus more capable students, etc.);

- Teachers are able to use different types of delivery methods and can choose methods to suit particular circumstances;
- Classes provide social settings where students can learn from and teach their peers; and
- Teachers can structure classes to help develop skills outside subject mastery, such as written and oral communication skills.²

Proponents of self-study argue that:

- Self-study permits a student to study at his own pace;
- Self-study requires students to learn self-discipline; and
- Self-study is relatively inexpensive (this is an important consideration for individuals who are not in formal actuarial programs but want to be actuaries).

It is clear to me that neither university nor self-study is perfect and both approaches have a place in the education of future actuaries. If the SOA is to achieve its strategic goal of providing cost-effective, superior education that is globally accessible, I believe it needs to embrace both approaches in its educational offerings. To me, this argues for universities and colleges to become more involved at the preliminary exam level. At the fellowship exam level, I believe the SOA should look for ways to introduce some of

the social benefits of the university approach, perhaps through use of social media.

If we embrace the many benefits of university education, e.g., asking universities and colleges to become strategic partners in the education of future actuaries, we will come closer to realizing a truly state-of-the-art pre-qualification education. **A**

Marcus Robertson, FSA, FCIA, is a semi-retired pension actuary. He currently sits on the SOA board of directors and is the board partner for Education. Marcus has been a volunteer on the Education Committee for over 20 years. He can be reached at marcus.robertson@gmail.com.

ENDNOTES

¹ An interesting feature of the Canadian Institute of Actuaries' (CIA) University Accreditation Program (UAP) is that students seeking credit for a preliminary SOA exam are required to take one to four university courses (usually two or three) and achieve high grades in each course to receive credit. By requiring students to take all of the supporting courses, the CIA's UAP is ensuring that students actually cover all of the material covered in the university courses before they receive credit for the preliminary exams. This is a feature that can't be guaranteed with self-study. A potential weakness, in my opinion, of the UAP is that the university courses need not cover 100 percent of the learning objectives established by the Society of Actuaries. The CIA requires universities to cover 85 percent of the learning objectives established by the Society of Actuaries and to include additional materials if their courses do not cover 100 percent of the learning objectives. The CIA therefore must satisfy itself that there are no material omissions when it accredits a university's actuarial courses.

² This, of course, will work only when classes are a manageable size.

ACTUARIES ON THEIR OWN TIME

Stefanie Harder, ASA, MAAA, is an actuary with Sagicor Life Insurance Co. in Scottsdale, Ariz. In 2007 she started doing 5K races “as a walker at the local Turkey Trot and at Tampa’s Gasparilla Distance Classic,” Harder says. Today, she is an accomplished half- and full-marathoner who consistently places well in her divisions.

“For the 5Ks, I really enjoyed the atmosphere, the spectators’ inspiration, the music, and of course, the festivities at the end of the race,” Harder says when asked how she got inspired to become a runner. “I was one of the people who always said, ‘Oh, I cannot run.’ I believed it, but I found myself trying a jog for portions of these initial races.

“After years of turning to stress-relieving habits that were not always benefiting my health, such as eating great meals or relaxing to a good book or movie, I was ready for a change. I found that swimming provided more stress relief than anything I had ever tried before, and started swimming almost daily. In 2007, I added bicycling to my regular sport activities.

“An opportunity to sign up for a triathlon came up at work. There was a company-sponsored sprint triathlon, and I still was not too sure about the run portion, but I knew I could swim and bike. I managed to finish, and I think I came in last in my

competition group. I competed as an Athena. They have Clydesdale (men) and Athena (female) categories for weights over a certain number of pounds. Despite the finish time, it was just great to finish, and I gained the health benefits of having trained and run the course.

“This was motivating me to want to improve, and I started on the path of intentional training, combined with diet. It may seem like a simple concept, but it’s easier to be quicker, if you weigh less. It’s also easier to be quicker, if your muscles are used to the activity.”

Did she have any coaching? “I have learned to always remain teachable, especially in the area of physical fitness,” Harder says. “Since I’m relatively new to running, I wanted to learn how to prevent the injuries that others who have been running for years have faced. There are great articles in the magazines devoted to sports, online tips and videos showing proper techniques, and advice from other runners.

“One thing that really made a difference was signing up for weekly training with a personal trainer at a local gym. When asked about my goals, I responded, ‘I want to keep my weight down, and I want to be quicker at the triathlons.’ The trainers designed plans that



Harder running the Las Vegas Rock'n'Roll Marathon

offered cross-training, such as weight-lifting, stretching, Pilates, and balance techniques.

“I also joined a triathlon (endurance) club, and the group offered training sessions, lectures, and chiropractic evaluations. Working through the difficulties and learning by practice offers the teaching opportunity.”

When asked what is the most rewarding part of running, Harder says, “The biggest reward is in the health benefits running offers. For me, I have lost more than 100 pounds, and I know of many others that get out in the marathons with their

'before' and 'after' pictures pinned to their backs, showing why they do it. But it is hard to run with that as the only reward. It helps to be signed up for that next race.

"I took a mule ride down the Grand Canyon, and the mules are pretty special because they just want to do their work; to haul you down the canyon. They are pack animals, like us. Before you begin the journey down the canyon, the guides teach you a trick that makes the mule want to stay with the mule in front of them. The guides do this so that both the rider and the mule stay safe.

"Signing up for a marathon offers that same trickery. For me, if I'm signed up, I know I better get out there and keep training. And if I'm training, I'm doing what it takes to live a healthy lifestyle. I'm also taking time to enjoy the great outdoors and take in the beauty."

What is the most difficult part of running? Harder says, "The first two miles of any run seem to be the most difficult. It helps to remember that, and to not give up, even though it does not seem easy at the time. After that, it really gets enjoyable."

When asked which distance she prefers, the half or full marathon, Harder says, "If I have had time to train, I prefer the full marathon. I place better in my age group in a half marathon, but it always seems like a bigger accomplishment to finish a full."

How many of each has she run? "I have run seven full marathons and six half marathons," Harder says.

When asked if she has a favorite race, Harder states, "They all have been special in their own way, but my favorite was the 2011 IMT Des Moines Marathon. It was one of the first where I felt like I had figured out more of the logistics (how to dress, proper diet, and how to really enjoy the run)."

What are her personal record times for each distance? "For the Des Moines marathon, my time was 5:05, which put me as eight out of 19 in my age group," Harder says. "The year before that, I ran

There are so many instances where training for a marathon is like studying for an exam.

the half marathon and came in at 2:09, placing me at nine out of 87. For the Pasadena Rock'n'Roll Half Marathon this last February, my time was 2:42, placing me at 56 out of 117.

"Once, after a race, I found myself wishing for a better time, trying to think of how I might have done it differently. In the crowd walking to the parking lot, I overheard a mother with two children. The boy was complaining how another boy was faster, and that he was upset that he could not go as fast. The mother explained to the son, 'That's not what the race is about. The race is getting out there, giving it your best, and finishing the race.' This was exactly the coaching I needed, too."

When asked what brand and type of shoe she wears for the two distances, Harder

says, "I wear Brooks Adrenalines for both. They offer stability, and I am rarely sore. There is so much research when it comes to shoes. The best advice I've heard is to find your shoe and stick with it. I use other types for cross-training, such as Altra for trail running, and Inov-8 F-lites for long walking days."

Does she see an actuarial tie-in to running? Harder says, "There are so many instances where training for a marathon is like studying for an exam. Neither marathon

running nor actuarial exams can be done by dabbling into the material. It takes almost an obsession to accomplish both. The actuarial material is tough, but they make learning it to the level required for the job something we want to do, because it is a competition. OK, they trick us!

"There are many times in an actuarial career where it can be tough. It may seem difficult to try an exam again, or try the profit run or the valuation run again, if it did not work well the last time. The same thing happens with running the races. You'll find that if you give it another try and give it more practice, you will be rewarded with success." **A**

Stefanie Harder can be contacted at Stefanie_Harder@sagicor.com.

Tony Batory, FSA, MAAA, is an actuary with UnitedHealth Group in Hartford, Conn. He began playing bass guitar about 40 years ago, in his early college days. “So, I’ve played bass longer than I’ve been an actuary. But my interest in math goes back a lot further,” Batory says. His bass playing career is quite extensive and includes performing with two award-winning artists, one being a Grammy winner.

When asked how he became interested in math and bass playing, Batory says, “My starting interest in math goes back to a sixth-grade teacher who would make mistakes while doing math problems. It was such a kick to be able to correct the teacher. Especially because she would say something like, ‘I made that mistake intentionally to see if you were paying attention,’ and the entire class knew she was lying. I don’t recall the initial musical inspiration, but it was not the school or my family. Somehow, some ‘60s bassist, McCartney or Squire or Bruce, made an impact which was quite a task since the bass responses from that old transistor radio or hi-fi were really awful.”

What was the learning process for the bass guitar? “Initially the learning process was quite informal, but I had friends that were attending music school for jazz,” Ba-

tory says. “So, I learned two short walking bass lines, real simple jazz stuff. When I auditioned for my college jazz ensemble, the incumbent bassist was a rock guy



Batory plays bass solo with the Covert jazz combo at the Univ. of Hartford

with a high-end Rickenbacker bass. But I played my two short phrases and they loved me because they were really looking for a jazz guy. I didn’t tell them that was my entire jazz repertoire. The ensemble was intense; they would put a top-of-the-line jazz chart in front of me and say, ‘ready 1-2-3 play’ It forced me to read sheet music and to have a regular practice regimen.

“Today, I download a song to my iPod, print the sheet music from a website, plug the iPod into my amp and play along. If I can’t play it well, I can download the sheet music into software and watch the computer play the line. Slower, faster, change the key? No



Batory in guitar/bass duo Mixed Bag at the Acoustic Brew

problem. The technical advances are a long way from trying to spin a vinyl record on a turntable.”

When asked if he plays other musical instruments, Batory says, “most other bassists play regular guitar which I sometimes find to be insulting and contradictory. There are a lot of bassists that flunked the six-string guitar and they had to ‘go down’ to the simpler four-string bass. In addition, a lot of bass technique is derived from the stand-up bass which is essentially violin technique. Some of that is pretty far removed from guitar technique, e.g., bowing versus picking. I could say my second instrument is piano or voice, but that’s an exaggeration. With all the software and Internet capabilities today, my second instrument is a computer.”

When asked what is the most rewarding part of being a musician, Batory says, “I was reviewing 2012 because of the tax re-

porting and counted 32 gigs with five different bands. The varieties of music—jazz, classic rock, modern covers and country—all had significant bass parts. Plus, the different venues—outdoor concerts in the parks, restaurants/bars, theaters, malls, private parties—made it an exciting year.”

There is the obvious connection between music and math. But lately I’ve been seeing parallels between the bass and my systems development day job.

“It seems like every time I tell someone that I play bass I get a response like ‘my sister’s neighbor’s uncle’s friend knows a guy who plays guitar and he’s unbelievable.’” Batory says when asked what is the most difficult part of being a musician. “The only thing that’s unbelievable is the number of times I’ve heard the word unbelievable. I can offer a different perspective by asking, ‘where does this unbelievable guy play out?’”

When asked what has been his favorite performance and why, Batory says, “In 2012, the most rewarding gig was a jazz performance for a nursing home. The residents all had significant medical problems; they literally had to be wheeled into the meeting room where we were playing, some still connected to IV’s, monitors and oxygen. They were so pleased to have a band come on site to play for them and their appreciation was evident in the smiles on their

faces. This was in direct contrast to the typical bar gig where people are so loaded they applaud loudly, but the next day they don’t remember who you were.”

How did it come about that Batory performed with two award-winning musi-

cians? “My son’s high school has many music bands/groups and I helped out with their jazz band and played in a parent rock band. The vocal choruses have always been at a high level, winning several national awards. They solicited Grammy winner Jim Papoulis to be a guest conductor. Usually the choruses sing a cappella, but for this occasion the teachers wanted a professional pit band, piano, bass and drums. Several of Jim’s compositions had unusual rhythm changes and I had worked one-on-one with him to get the parts right. In his words, ‘if the bass misses this, it will throw everybody off.’ No pressure? Fortunately in concert we nailed it.

“The Leonard Bernstein Festival of the Arts is an annual show at Brandeis University giving artists a truly creative competition as opposed to the Grammys that can be more popular oriented. The keyboard player in one of my rock bands had his own CD of computer-generated sound

tracks and his submission won an award. The weird part is I strongly suggested that he put the monetary award toward a new keyboard to replace the one we duct-taped at a gig. Instead he brought a new computer and more compositional software. His comment, ‘Tony you’re too practical, is that part of being an actuary?’”

What is Batory’s favorite genre of music? “I love jazz-rock, aka smooth jazz like Spyro Gyra or the Rippingtons. It combines the variety and colors of jazz with the intensity of rock. Unfortunately, there’s not a lot of opportunities to play out with this genre.”

When asked if he sees an actuarial tie-in to playing an instrument, Batory says, “There is the obvious connection between music and math. But lately I’ve been seeing parallels between the bass and my systems development day job. Many times the bass is there to add depth to the sound. Not to be in the lead or to be heard directly, but to make the other players sound better. In this context, it should be spelled B-A-S-E, as in the foundation. Over the past year I have provided many systems solutions for health care reform requirements. These system functionalities enable other people like sales, underwriting, operations, etc., to do their jobs more effectively. The enhancements are really foundational and I feel like I’m adding a lot of depth to my company at a real ‘bassic’ level.” ■

Tony Batory can be contacted at tony_batory@uhc.com.

John Governale, FSA, FCA, MAAA, is president of Actuarial Health Solutions LLC in Maple Glen, Penn. Governale's pastime is scuba diving and being a scuba instructor. "I've been teaching for 10 years now," Governale says. "I teach two to three classes a year. I teach in conjunction with my local dive shop which is located in Horsham, Penn., and I utilize the facilities of Horsham Township's school district."

When asked how he got started with SCUBA, Governale states, "I got certified more than 30 years ago and always wanted to get my instructor's certification. But family, actuarial exams and time prevented that until about 10 years ago when

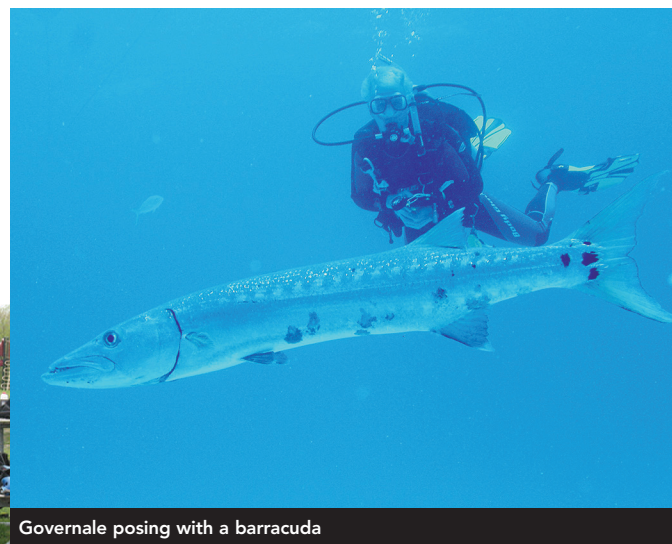
I finally had the opportunity to do it. My inspiration is sharing the wow factor and beauty and enjoyment of diving."

"The special training is learning as much as you can from your course director about teaching scuba diving and being proficient at your water skills—all while being observed, graded and critiqued," Governale says when asked what special training he needed to become a SCUBA instructor. "Then you have to pass each section of your final written exam. So, my actuarial exams helped since my scuba instructor's final was a piece of cake compared to an actuarial exam."

What is the most rewarding part of teaching SCUBA? "Having your students gain the confidence in their ability to join the adventure and seeing the expression on their faces



Governale readies for a dive



Governale posing with a barracuda

after they have finished the course and get their certification, or when they come back from a trip and tell me how beautiful the underwater sea life was."

When asked what is the most difficult part of teaching SCUBA, Governale says, "Convincing someone to trust themselves in their abilities and capabilities."

Where is your favorite location to dive? "One of my favorites is Turks and Caicos since the dive sites are very diverse, water is clear, creatures are plentiful and large. Another is Galapagos Islands—because it is SO DIVERSE!" Governale says.

When asked if there have been any scary moments while teaching or diving, Governale says, "For me no, because we train for safety. But one of my students did something unadvised as we were leaving a pool training session and fell, yielding him a tibia and fibula fracture."

Does he see an actuarial tie-in to teaching SCUBA? "You train hard, prepare for possible unlikely events, take precautions to mitigate risk and be prepared to act if something goes a little sideways," Governale states. **A**

John Governale can be contacted at jrgovernale@comcast.net.

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CREATING A RISK MANAGEMENT CULTURE

BY DAVE INGRAM

IT HAS BEEN DONE BEFORE. U.S. businesses all changed their cultures, at least the survivors did. But that was 30 years ago now. In the early 1980s, inflation was out of control. Prices were growing at a double-digit clip. In many firms the prevailing expense management culture was to spend what you had to and let

but most settled for embedding a simple, but transformative, set of ideas into their management processes:

1. Always ask, "How much will it cost?"
2. Always consider, "Can we achieve the same result at a lower cost?"

... an embedded risk management culture is not expensive. An embedded risk management culture does not stand in the way of doing business.

growth take care of it. Many firms did not even keep good track of their expenses. This attitude was developed during the decade of the 1960s when GDP growth rate was over 5 percent about 50 percent of the time. In the late 1970s and early 1980s, budget discussions started at the level of last year plus inflation. But after a few years of this, some firms realized that they were not on a sustainable path. The idea of a tight expense management culture emerged. Some companies adopted short-lived techniques like "Zero Based Budgeting,"

3. Keep close track of spending and treat expense reports as an important management tool that receives much attention.
4. When you go over budget, the variance must be explained immediately and repeated unfavorable variances are not acceptable.
5. Good expense management was a part of compensation and advancement criteria.

Flash forward to the current decade. U.S. businesses are changing their cultures; at least the survivors are changing. In the prior decade, risk taking was out of control. Many firms had the practice of taking as much risk as they could to maximize their earnings. Some did not even keep track of how much risk they were taking.

Risk management is being adopted by more and more firms every year. But so far, only a few are doing risk management as more than a bolt-on process that runs on one side, not really a part of their company culture. What is needed is a similar process that led to the embedding of expense management. What is needed is for some simple questions to become an everyday part of running the company:

1. Always ask, "How much risk does it add?"
2. Always consider, "Can we achieve the same result with a lower risk?"
3. Keep close track of risk exposures and treat risk reports as an important management tool that receives much attention.

4. When you go over a risk limit, the variance must be explained immediately and repeated unfavorable variances are not acceptable.
5. Good risk management was a part of compensation and advancement criteria.

With risk management currently existing as an add-on process, it is expensive and easy to just ignore. But an embedded risk management culture is not expensive. An embedded risk management culture does

not stand in the way of doing business, it is part of the way of doing business.

But how did that expense culture happen in the 1980s? It was not a bottom-up process. It did not become embedded because firms hired or promoted the budget director. It became part of everyone's everyday routine because questions like those above were asked by the senior executives every time someone came to them for approval or for review of a decision. Because the executives made it completely clear that these questions were always important to them.

Companies whose management does this will have a risk management culture that will operate through many eyes, hands and minds throughout the year to make sure the risks the company is taking are no more than are needed to achieve their business objectives. **A**



Dave Ingram

David Ingram, FSA, CERA, MAAA, is executive vice president with Willis Re Inc. He can be contacted at dave.ingram@willis.com.

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Book Review

AN INTERVIEW WITH AN AUTHOR AND ACTUARY

BY SAM PHILLIPS

ICKI IQBAL was born in India, educated in Pakistan, and has lived his entire adult life in England. He went to England to become an actuary and to watch cricket; he has accomplished both. He became a fellow of the Institute of Actuaries in 1971 and an associate of the Society of Actuaries in 1972. He spent more than 30 years in life insurance companies rising to be the actuary and director of Royal Life Insurance. He then spent eight years as a management consultant advising life companies.

Recently, Iqbal published a novel he wrote titled *The Incomplete Man*. It is a fictional work and *The Actuary* asked him some questions about his writing experiences.

TA: Please provide a short description of your book.

Iqbal: It is the rites of passage of a bright but naive man—Majid, the novel's hero—as he makes his way up the management tree in an insurance company.

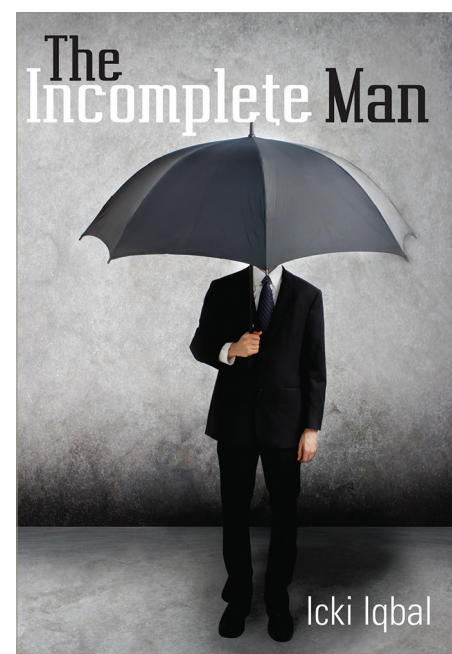
TA: What inspired you to write a novel?

Iqbal: A lot has changed in society in my

adult life. Institutions, whether the state or church or the police or the judiciary, and professions, whether doctors, lawyers, accountants or actuaries, are no longer held in esteem. Consumers are kings. Compensation culture means that they can purchase risky products knowing that if it does not work out there's a fair chance that the regulators will deem the product to have been mis-sold. So it's a one-way bet.

As against that, during the '80s culture of greed, there is no doubt that insurance company management, aping the financial services sector in general, resorted to excesses that were unwise. In one decade of folly they dissipated two centuries of thrift.

I wanted to write a novel set against that background with an actuary as hero. Apart from a recent book by Haeworth Robertson, I couldn't find any. Jack Nicholson was an actuary in *About Schmidt*, but most of the time he was Jack Nicholson; Edward G. Robinson was a claims investigator in *Double Indemnity* who would routinely spout actuarial



statistics. He was my inspiration and I decided to make my hero, an actuary, a claims investigator as the occupation has reader interest.

After making his name as a claims investigator he becomes part of the senior management team but is ill-equipped to deal with boardroom treachery and

ends up losing his job. However, there is a happy ending, the love of a woman playing its part. Of course, a novel has to exaggerate both the hero and the villain.

TA: Who is the villain in the book? What is he trying to accomplish?

Iqbal: The villain is Nick Knights, Majid's lifelong adversary. Right at the very start of the book, when at college, Nick says, "I mean to become one of the richest persons in England." As the story evolves, he leaves no avenue unexplored to achieve that. At work he uses both fair and foul means to rise to the top.

TA: Are there any lessons to be learned from this story?

Iqbal: This is a morality tale and therefore the nice guy does prevail in the end. However, there are deeper lessons. There is a difference between the eye of the eagle and the eye of the ant. Actuaries (and accountants and lawyers) are trained not to overlook the detail. In the process they can miss fundamental changes. Also, when fundamental changes are taking place, experience can be a handicap rather than a blessing. A lot of our intuitive thinking is based upon experience and can lead us to wrong decisions.

The insurance industry in the United Kingdom has been destroyed as a savings medium for two reasons. Management, weaned upon high inflation, could not adapt to low inflation; their intuitive thinking letting them down. Secondly they were wrong-footed by the shift in power from the producer to the consumer.

TA: How long have you been doing creative writing? Is it a hobby or are you considering a career change?

Iqbal: My father was a bookworm and from childhood I revered books and longed to be an author. When I became an actuary I wrote frequent articles for the financial press and published several papers on actuarial and marketing themes. I took up creative writing seriously when I retired in November 2005. I went to classes. The first novel I wrote, called *The Herd Instinct of Mules*, was set in the banking industry and showed one reckless chief executive bringing a strong bank to ruin. Unfortunately, it was too prophetic as the banking crisis occurred. Reality was imitating and exaggerating fiction. I couldn't get any publisher interested.

TA: How did you get your book published? What did you learn from that process?

Iqbal: I soon discovered that for new writers of fiction, getting a book published was harder than writing it. No publisher will consider a first-time writer unless he has an agent. An agent receives a large number of letters. He will read the cover letter and then put it in one of the following seven piles, in descending order of importance:

1. Their existing authors;
2. New work from their existing authors;
3. Authors with published work, looking to switch to them as an agent;
4. Authors recommended by publishers or editors;
5. Unsolicited work by proven writers in another field;
6. People well known in a field and wanting to write. Examples are sportsmen, politicians, television personalities (might need a ghost writer); and
7. Unpublished new authors.

Even if they get to look at the seventh pile your chance of success is less than one in 100. So in the end I set up my own publishing company. The first book I published, in 2011, *The Tebbit Test*, was a sort of autobiography, looking at my life as a cricket fan. *The Incomplete Man* is my second book.

TA: What are your plans for the future?

Iqbal: I am pretty well retired as an actuary. I've done some expert witness work and held non-executive directorships, but none at present. I will continue to write. I have three projects on the go at the moment although I cannot say that they will all reach fruition. The first is a television series based upon *The Incomplete Man* but focusing on insurance fraud detection. The most ambitious one is a celestial Mean Machine where the Devil takes on God. **A**

Sam Phillips, is magazine staff editor for the Society of Actuaries. He can be contacted at sphillips@soa.org.

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Study Shows What Makes Life Insurance Buyers Tick

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Rewards Of Living On Less

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Ft. Lauderdale, Fla.

VALUATION ACTUARY SYMPOSIUM

Sept. 23 – 24
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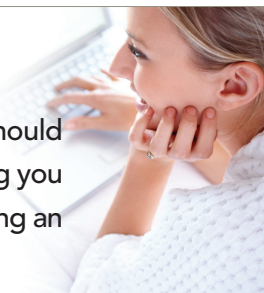
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This e-course is one in a series of four professional development e-courses intended to provide a practical application of the Code of Professional Conduct.

Regulation and Taxation

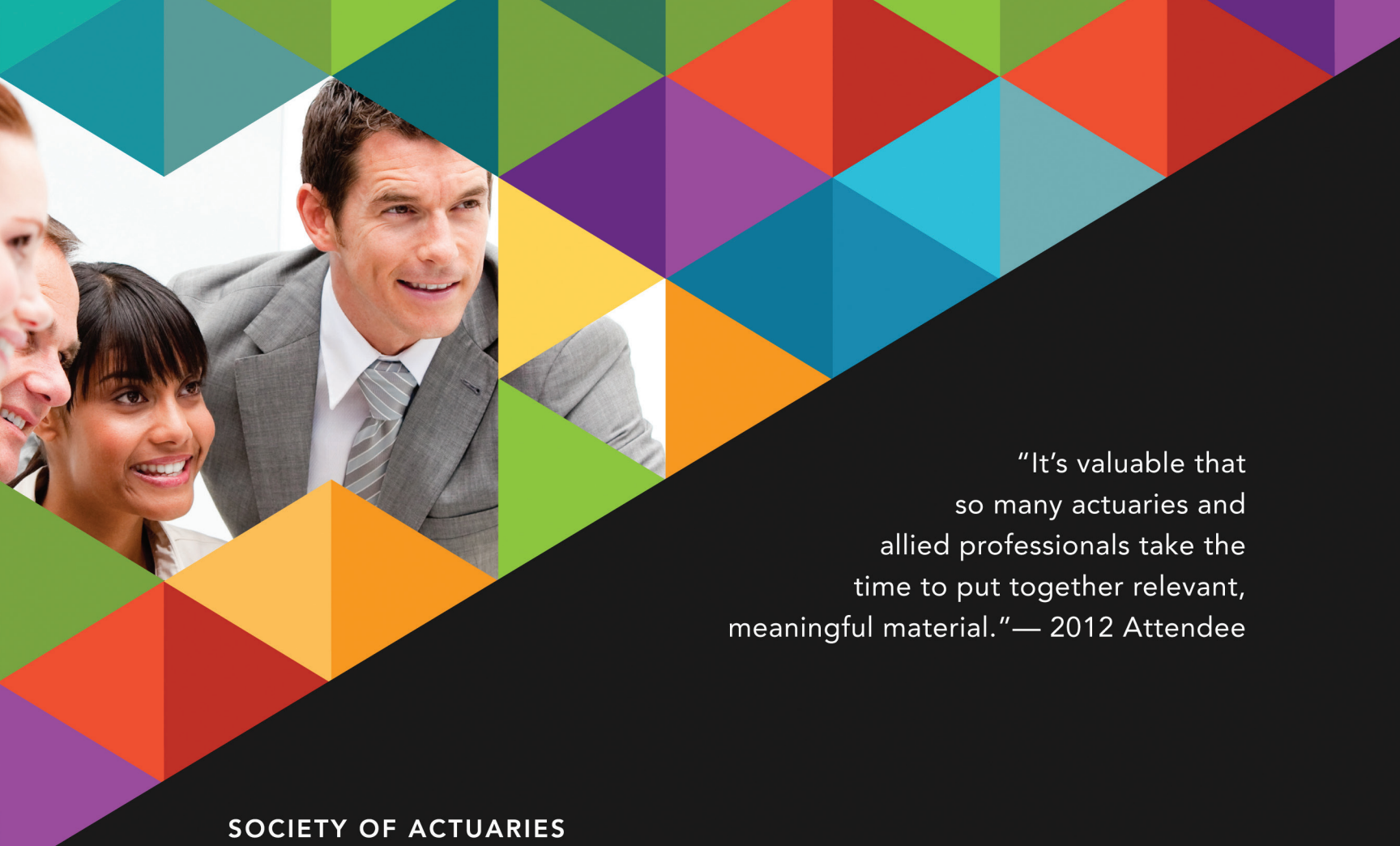
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