SOCIETY OF ACTUARIES

The Actuary

JUNE/JULY 2012 VOLUME 9 ISSUE 3


THE WAY TO WELLNESS

A NEW AREA OF OPPORTUNITIES FOR ACTUARIES

ACTUARIES ON BOARDS: PART III

The right types of personalities for board positions


THINKING AND DECISION MAKING: PART III

Choosing the most effective decision-making process

June/Jul

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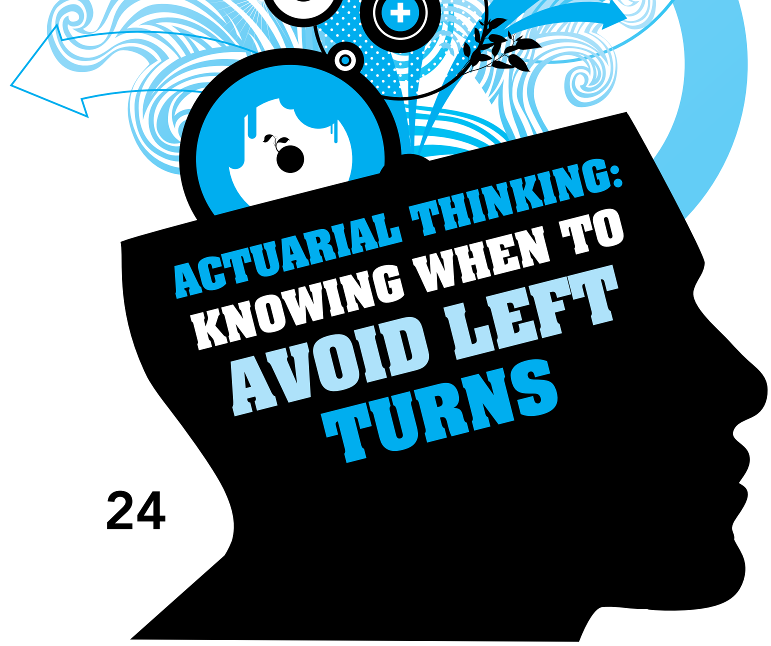

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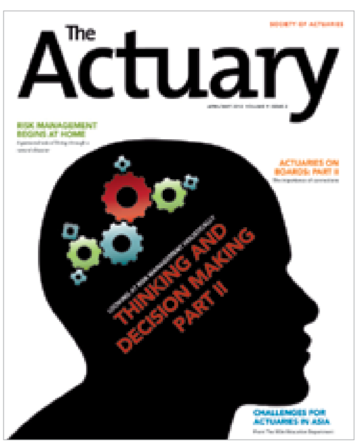


***THE ACTUARY* RECEIVED** several letters similar to the one printed here. This letter encompasses many of the points in those letters. The opinions expressed in this letter are those solely of the letter's author and should not be interpreted as those of the Society of Actuaries or *The Actuary's* contributing editors.

DEAR EDITOR,

Regarding Professor Douglas Eckley's letter in your April/May 2012 edition, pension plans, including Social Security, invest the excess of their current proceeds over benefits paid out. They invest in a broad variety of instruments, some wise, some not, but the most important thing is that the excess money is invested, not buried in the plan sponsor's back yard to be dug up when needed. By law, Social Security's excess proceeds are invested in bonds issued by the United States Treasury. What Treasury does with the money it borrows isn't relevant. The only thing that really matters in this context is that when the debt comes due, it will be repaid. To suggest that the Social Security Trust Funds are empty because the feds spent the money borrowed from SSA is nonsense. Suppose Social Security had invested one year's net proceeds in corporate bonds—half loaned to IBM and half to General Motors. No one would say that piece of the trust fund was empty because IBM and GM had spent on their businesses what they had borrowed from SSA. Of course, it would be legitimate to say part of the trust fund was ultimately lost since GM went broke, thus devaluing its bonds, but unless the feds similarly renege on their promise to fully redeem their bonds, the Trust Funds are, and will continue to be, alive and well.

The real issue regarding Social Security is moving wealth between generations. And it's an issue for every pension plan but Social Security's scale makes it more obvious. Personal financial retirement assets—pension plans, DB or DC, and other forms of savings—are in fact markers giving the holder/retiree claim to some part of the national economic output even after the holder is no longer contributing. The money due for those markers will be paid by current workers at the time

Trust Fund Assets

THE FOLLOWING IS excerpted from the May 2011 issue of *Issue Brief* published by the American Academy of Actuaries. The excerpted material is from an article about the Social Security Trustees report.

TRUST FUND ASSETS

Any excess of tax income over outgo is recorded as an asset in the Social Security trust funds and allows the Treasury to borrow that much less from the public. These trust fund assets are held in special U.S. Treasury securities amounting to $2.6 trillion at the end of 2010. Trust fund assets are expected to increase to $3.6 trillion at the end of the short-range estimate period (and peak at $3.7 trillion in 2029). The bonds in the trust funds represent the government's commitment to repay the borrowed cash whenever Social Security needs the money. As the securities are redeemed by the trust funds, the U.S. government must raise the necessary cash either by raising taxes, increasing publicly held debt, or lowering other expenditures. A they are cashed. And the values of the markers will also be determined then. What buying power retirees receive from their financial retirement assets is going to depend long-term on how much of the national output the current workers are willing to give up. That reality has the potential to significantly affect security values, inflation, taxes and other aspects of our economy.

Specific to the Trust Funds, when the bonds come due someone is going to have to come up with the cash to redeem them. The feds can raise taxes to bring in the money, or re-borrow from someone who then has money to lend. Regardless of how the cash is obtained, as long as the bonds are paid off on time the Social Security Trust Funds will have done their job exactly as intended. But in fact the benefits paid out of those bond proceeds will be paid by the current generation of workers, not by the workers whose taxes built the Trust Funds in the first place. The same would be true had the money been invested in IBM and GM bonds. This transfer of wealth across time and between generations may ultimately turn out to be the single most important problem the actuarial profession can help solve. A

Dennis Barry, FSA
Little Rock, Ark.

Editorial

ACTUARIES IN NONTRADITIONAL ROLES

BY CATHY LYN

THE ACTUARIAL PROFESSION has serious competition from related professions to attract the best students when they are in the process of choosing a career. However, more and more youngsters, especially outside of North America, are aspiring to become actuaries. Most of those who choose the actuarial path are a talented set of individuals with an affinity for mathematics who have something positive to offer. I would like employers to realize that actuaries and actuarial graduates are valuable employees who can give an organization a competitive edge even if they do not function in the traditional role of an actuary. An actuarial career has been publicized as among one of the best jobs in America by offering a pleasant work environment, good salary and healthy job security. However, in recent years, some of the rankings have fallen and the actuarial job often now carries the perception of being stressful.

This editorial paints a picture of actuaries flexing their actuarial skills beyond signing reports and forms for legislative and compliance work. The public wants a strong, profitable and ethical financial industry that can meet its contractual guarantees and ensure worthwhile benefits to their customers and they want to trust their financial organizations. This is more vital in the face of the global financial meltdown and looming climate change. We cannot eliminate insolvencies, but our work can demonstrate a strength that deserves the image of an expert in our field, and a truly "trusted advisor."

In countries where the financial markets are small, or still developing, such as my home country, Jamaica, there are inevitably fewer actuarial jobs. But often the context of the actuarial role itself is much broader than found in larger developed markets such as the United States. So, while it may not be necessary for actuaries in the United States to consider a non-traditional role, I believe all actuaries should remember that an actuary's skills are valuable in many other industries such as energy and utility companies, transportation, in fact, nearly any sector that requires a robust application of risk management principles.

I would like to give readers a glimpse of the talent demonstrated by two people I know personally who have extended their actuarial skills, taken on leadership roles and moved the boundaries out as they successfully ventured into new areas.

Daisy McFarlane Coke, ASA, FIA, spent time in the U.K. Government Actuary's Department which offered advice to: the Board of Trade, the ministry responsible for all trade matters, including insurance regulation and supervision; the Ministry of Finance; the National Insurance Fund (for social security) and all departments with responsibilities for public sector pension arrangements; overseas governments including Malta, Gibraltar, Ceylon and Singapore; and the trustees for pension funds of the United Kingdom and commonwealth public sector. Her training gave her valuable experience and exposure to actuarial practices applied in different parts of the world.

Daisy returned to Jamaica to take up a post as government actuary in the Ministry of Finance. A couple years later she started her own consulting firm concentrating mainly in the retirement and social security practice areas.

It was Daisy's volunteer work that took her into new territory. She became chairman of Public Services Commission, acted as deputy chairman of the Jamaica Broadcasting Commission Board, and served as a board member at Prices Commission (now Consumer Affairs Commission), the regulatory body for protecting the rights of consumers, to name but a few.

Her actuarial knowledge helped to gain an understanding of how to use data from a number of sources in decision making. She learned the inputs that would be charged to the final product, how to evaluate allocation of expenses and profitability over a wide range of goods and services in an equitable manner as well as understanding that the costs would be borne by taxpayers. She spoke to various labor unions to initiate discussions on employee benefits, and helped develop the role of the actuary in serving both organizations and individuals and contributed greatly officially and unofficially to the development of the profession in Jamaica. She is a founding member of the Caribbean Actuarial Association (CAA) which is now a full member of the International Actuarial Association (IAA).

Ravi Rambarran, FIA, is a Trinidadian living in Jamaica and working for a Barbadian company with responsibility for insurance operations in the United Kingdom, United States and the southern Caribbean. He was awarded an Open Mathematics Scholarship by the government of Trinidad and Tobago which opened the door to tertiary education for him. He is a fellow of the Institute of Actuaries, a representative of the CAA on the IAA Insurance Committee, chair of the (CAA) Property and Casualty Insurance Standards Committee, chair of the CAA Public Sector Pensions Reform Committee in Jamaica and was recently elected vice president of the CAA.

As a young man driven to extend himself, Ravi has worked hard to gain experience in a variety of practice areas as an actuary. He qualified as a pensions actuary in England, but when he came to Jamaica, he found an opportunity to get involved in group accident and health in addition to running a pensions portfolio. Subsequently, he became the appointed actuary to the overseas subsidiaries of the parent company, Life of Jamaica. The parent company was later acquired by the Sagicor Group and he became the chief financial officer and chief investment officer of Life of Jamaica. He had a short time as the CEO of a broker/dealer and then returned to Sagicor as the group corporate strategist. Ravi is currently the CEO of the International Division of the Sagicor Group which incorporates the life insurance operations in the United States, the general insurance operations in the United Kingdom and the southern Caribbean.

Ravi applied himself to master the new technical areas he adopted and he has been fortunate to have excellent mentors like Prof. Steven Haberman and Stephen Yeo, FIA, from England, Errol Mckenzie, BSc, MBA, from Jamaica, Diane Bean, BA, from Canada and Dodridge Miller, FCCA, MBA, LLM, LLD (Hon), from Barbados who have regularly provided advice and opportunities. Following the issue of the Green Paper on public sector pension reform, Ravi's latest contribution has been to lead a CAA team to propose a benefit design to reduce an unsustainable pension cost to the joint parliamentary committee formed to deal with this matter.

As the above examples illustrate, an actuarial training and qualification is just a start. The actuarial education and training program provides the fundamental skill to achieve success in the business world. That is, the ability to think—the ability to ask the right questions, to solve problems creatively, to apply mathematical and analytical rigor to all aspects of "risk management" in its broadest sense. Actuaries have to continually demonstrate this ability to the managers and decision makers in their organizations. Why not actively seek out problems in your company, as these are opportunities to devise creative solutions. Too many actuaries seem to prefer to remain on the advisory side rather than become influential as decision makers and be accountable for results. Actuaries should study other disciplines, for example, management, strategy and marketing and learn how these disciplines are interconnected to actuarial science. Be curious and keep asking yourselves, "How can the status quo be improved?" and proactively take a leadership role!

Cathy Lyn

Actuaries should study other disciplines … and learn how those disciplines are interconnected to actuarial science.

However, none of this will work unless there is also a level of personal development around communication ability—an oft-raised criticism from those outside the profession, but not without foundation. Right from university into student-level roles and throughout an actuarial career, continual development of the ability to translate technical information into easily understood results and advice is the key to a successful business career, in whichever part of the market one works. I strongly believe that all actuaries have a duty to serve their profession by strengthening its image, not only internally but also with other actuaries external to your organization.

I would like to thank Daisy McFarlane Coke, Ravi Rambarran and Lesley Traverso of D.W. Simpson for their valuable contributions.

Cathy Lyn, FSA, FIA, is a consulting actuary for Duggan Consulting Limited and immediate past president, Caribbean Actuarial Association. She can be contacted at *clyn@sympatico.ca.*

Letter From The President

OUR RESPONSIBILITY TO THE PUBLIC

BY BRADLEY M. SMITH

PRECEPT 1 of the Code of Professional Conduct that applies to all members of the five U.S.-based actuarial professional organizations states:

"An actuary shall act honestly, with integrity and competence, and in a manner to fulfill the profession's responsibility to the public and to uphold the reputation of the actuarial profession."

"Acting honestly, with integrity and competence" is certainly something on which we all can agree; as is "acting to uphold the reputation of the actuarial profession." However, while "acting in a manner to fulfill the profession's responsibility to the public," is something we can conceptually endorse, determining how we do so, in practice, may be a little less clear. Consequently, one well-meaning actuary's view of "acting in the public's interest" may differ from another equally well-meaning actuary's view.

Let's examine a couple of examples that have recently appeared in the news.

The level of required capital for insurance companies and other financial institutions has been front-and-center since the financial crisis four years ago. The initial reaction to the question of how much is enough is, "more is better"; reasoning that a financial institution can never have too much. Of course, the more capital one has, the less likely it will run out when a crisis occurs. However, that does not mean that the more it holds, the ***less likely*** it will become insolvent. Why? Because the ultimate safety net for financial institutions is access to the capital markets. Requiring more capital of insurers results in one of two things; either prices for the products offered by the financial institution increase or its return on the capital decreases. If the return decreases below a figure acceptable to the capital markets, the institution's ability to raise capital in a crisis will be impaired, increasing the likelihood of insolvency. Such a result, certainly, is not in the public interest. If the cost of the products offered by the financial institution increase in response to the elevated capital requirement, the consumer will pay more for the product and might not purchase the coverage necessary to protect them from the financial consequences of an unforeseen disaster. Is this in the public's interest? So, while we may all agree with the concept of working in the public's interest, doing so may lead different professionals to very different answers.

The message here is simple. Do more than the bare minimum. Do more than required by the ASOPs.

The underfunding of many of our public pension plans is seemingly in the news every day. Even cursory examination of these plans reveals the primary causes of this underfunding. For a variety of reasons, plan sponsors have decided not to fund at the level recommended by their actuaries. The investment results over the past decade have resulted in returns for the most popular asset classes well below historic norms. Additionally, investment returns have been very volatile, leading to an asymmetric response by plan sponsors (i.e., raising benefits when returns have exceeded expectations without the ability to reduce benefits, once granted, when returns fall below long-term expectations). This one-way ratcheting up of benefits has led to systemic underfunding of a significant number of plans. Examples include replacing higher-paid, older employees with lesser-paid younger employees by granting early retirement. Also, allowing older employees in final pay defined-benefit pension plans to increase their pension benefits by working an inordinate amount of overtime in the years just prior to their retirement. And, of course, politicians sometimes appeal to public employee unions by granting benefits that will be funded well past the politician's tenure. Virtually none of these examples can be attributed directly to the actuary serving the plan. However, fulfilling our responsibility to the public requires providing insight into the possible financial ramifications of the decisions made by plan sponsors. Did the actuaries communicate the possible financial ramifications of their potential actions in an unambiguous, understandable manner?

Given the disappointing investment returns of the past decade, much attention has been paid to the level of assumed investment return in the actuary's work for public pension plans. One of the key considerations in the actuary's recommended funding level is allocating the cost of the pension benefits fairly to different tax-paying generations. Assuming an overly conservative rate of return allocates a disproportionate amount of the cost to the current tax-paying generation. Likewise, assuming an overly aggressive rate of return may result in future generations paying a disproportionate share of the cost. So which public do we serve, the current generation of tax payers or the future generation of tax-payers? Sometimes, unfortunately, these very basic questions get lost in our somewhat theoretical discussions about the rate of return that should be utilized.

Perhaps we should take the lead from the excellent examples of Rick Foster, chief actuary of Medicare and Steve Goss, chief actuary of Social Security. I have read the last few reports to trustees of each of these systems authored, in part, by each of these professionals. As you can imagine, over a 25-year-plus career as a consulting actuary, I have read many actuarial reports. I can say without equivocation that the actuarial reports for these systems are some of the best I have read.

We all know that actuarial models can be highly leveraged on one or two key assumptions. Addressing how the results presented in the report vary as these key assumptions change is critical to the insight that may be gleaned by the reader of a report. The trustees' reports for these massive systems consistently meet this standard, despite sometimes severe political pressure to do otherwise.

As chairman of a large multidisciplinary actuarial consulting firm, I live in the real world. I understand that, sometimes, clients do not want the reader of our reports to understand the full ramifications that key assumptions may have on the results produced. Some clients only want a signature. However, if Rick Foster and Steve Goss can stand up to presidents of the United States and insist upon giving insight as well as a defined "answer" to a very specific question, certainly the rest of us can insist on doing so with our clients. Quite frankly, if clients resist our insistence on providing the appropriate level of insight, perhaps it is time for us to re-assess whether they are deserving of our time and talents.


Bradley M. Smith

The message here is simple. Do more than the bare minimum. Do more than required by the ASOPs. Don't just give an answer to the question asked; give insight into the problem and communicate it in language that a non-expert can understand.

Only then have we met our responsibility to the public. A

Bradley M. Smith, FSA, MAAA, is president of the Society of Actuaries. He can be contacted at *bsmith@soa.org*.

IF THE PERSONALITY FITS

PART III OF THE ACTUARIES ON BOARDS


SERIES

THIS ARTICLE DISCUSSES THE PERSONALITY TRAITS THAT LEND THEMSELVES TO BOARD MEMBERSHIP AND HOW YOU MAY BETTER FIT THE MOLD. BY G.M. FILISKO AND MEMBERS OF THE SOA'S ACTUARIES ON BOARDS TASK FORCE

Corporate boards often used to be compared to parsley on fish—decorative but useless. But near-death experiences will sharpen people's focus, and that's exactly what happened after the nation's financial crisis. Today, corporate watchdogs and regulators demand that board members do more than keep up appearances and instead perform true oversight. Who better to provide that accountability than an actuary?

With that in mind, the Society of Actuaries (SOA) has formed the Actuaries On Boards (AOB) Task Force to explore opportunities for actuaries to pursue board service. Recently the task force interviewed more than 15 actuaries who have board service experience to gather advice for those who might someday consider seeking such a position. This is the third in a series of articles in which the information gleaned from those interviews will be presented.

KNOW YOUR PLACE

Before you can pursue—or accept—a board position, you should be clear on what, exactly, corporate boards do. "It's important that board members understand what their roles are," said Dan Neary, FSA, who has acted as chairman of the board and CEO of Mutual of Omaha and served as a board member of Valmont Industries. "I look at it significantly in terms of protecting the stockholders' interest, playing a strong fiduciary role, and maybe helping to keep management from making mistakes relative to risk—but to not cross over that line where we're also telling them how to manage the company. You always need to walk softly. The contribution you make needs to have sensitivity to the idea of, 'Are we stepping over that line of protecting the stockholders' interest into telling management how they should actually manage the company, as well?'"

In other words, you should know what boards don't do. "Boards don't run companies," explained Steve Steinig, FSA, formerly senior vice president and an actuary at New York Life, where he served on several subsidiary boards. "It's not their role to decide if my assumptions for my pricing are good or bad or whether I'm using a good projection of mortality or not and so on."

Instead, Steinig said board members choose a CEO they believe can run the company. And though they often don't possess the skill sets of the company's senior officers, board members should be able to judge whether those senior officers are capable. "They need a forest-and-trees business perspective spanning the marketing functions of the corporation," said Steinig, "along with just about everything the corporation is doing."

The board needs that expansive perspective because another of its functions is to help chart the company's course. That doesn't require that you know everything about the company's business, said Kriss Cloninger, FSA, president, treasurer and CFO of Aflac who has served on not only Aflac's board but also the boards of Tupperware Brands and TSYS. However, you must be fluent in high-level business concepts.

"Clearly, I didn't know everything about the Tupperware organization when I got involved, but I did have good experience in managing direct-selling organizations that performed on an international basis," explained Cloninger. "That's why they wanted me. TSYS has been a bit different because it's a technology company, and I'm not a person trained in technology. But I do know how they make money in terms of processing transactions for a fee and how they go about pricing … and things like that. I don't know everything, but I know a lot of the high-level concepts, and that's the key. You have to be comfortable dealing with high-level concepts instead of needing to know all the details. You're acting in an oversight role, not a management role, and you have to get used to the difference in those two roles."

THE RIGHT STUFF

How can you determine if you have the right "personality" to effectively perform oversight but not veer into management? There's no question that at some companies, you'll have a shot at a board seat only if you've broadened your experience and skills enough to reach the top of the corporate ladder.

"I'm biased because I've sat in the chair, but I really believe companies and boards are best served by participants having been CEOs," said Dale Wolf, FSA, president and CEO of Jessamine Healthcare. Wolf has been a member of several boards, including Catalyst Health Solutions Inc. and Coventry when he was the company's CEO. "Obviously, that narrows down the number a lot. But until you know the pressures a

CEO is under and how to respond to those pressures, the lack of that experience can impact the perspective of board members. In terms of what helped me be effective on boards, that CEO experience was invaluable in every respect."

However, Wolf admitted that it's possible to get the broad range of skills CEOs typically possess without actually serving as a CEO. Perhaps the most important of CEO-level skills is the ability to quickly sift through and analyze a broad range of materials. "You have to be able to master information," said Larry D. Zimpleman, FSA, chairman, president and CEO of the Principal Financial Group. "You have to be able to take in information, distill it, and find its essence."

Then you need the ability to use relevant information to think strategically. That's not something Terri Vaughan, Ph.D., ASA, ACAS, CEO National Association of Insurance Commissioners, who served on the Endurance Specialty Insurance and Principal Financial Group boards, had fully appreciated before she joined a board. However, she learned she enjoyed the opportunity to cultivate it. "I found other board members who had more corporate experience were much more prepared to think in terms of strategy," she recalled. "I was prepared to think about risk, but that's only part of what a board does. A lot of what a board does is think in terms of positioning the firm, strategy, and what market should we be in. I actually found that to be really a fun part of the job because it stretched me. I really had to learn new things and think about things differently. That was good."

It is also important to know how to hit that sweet spot between being a watchdog and a lap dog. Pay too little attention to details, and board members are falling down on the job. Pay too much, and they're improperly getting into the weeds. Steve Batza, FSA, president and CEO of MTL Insurance, has encountered two examples of actuaries who appeared to be lost in the weeds, thus blowing their opportunity to serve on his company's board.

The first actuary didn't make it past the resume stage, Batza explained. The nominating committee determined based on his resume that he had too narrow a focus. The second was interviewed, but her head-buried-in-numbers focus was off-putting. "She was more focused on the accuracy of our financials, whether reserves are adequate, and whether our accounting systems are tightly controlled," said Batza. "That's as opposed to the real concerns the audit committee should have, which is whether management is being held accountable and doing enough on risk management. As board members, we have to realize the function is more oversight than operations, and that might be for a lot of actuaries a little bit of a blind spot. Many technical experts want to get into the real excruciating details of things and may lose what the concept of oversight really means."

Cloninger said, ultimately, you need to possess the best qualities of a skilled consultant. "It's saying, 'We'll tell you as consultants what our advice is, and then you need to make up your own mind as to whether it's right for your company,'" he said. "That's, in a sense, the role of the board member. Board members might raise questions and make suggestions and then let management evaluate that input. Then board members can assess what management's done with their comments or questions and whether management's response appears to be adequate."

IT IS … IMPORTANT TO KNOW HOW TO HIT THAT SWEET SPOT BETWEEN BEING A WATCHDOG AND A LAP DOG.

Use Our Skills Tool to Find Your Growth Areas

LEARN ABOUT YOUR STRENGTHS—and areas for growth—by using the SOA Competency Framework Self-Assessment Tool. The tool is an exciting offering that allows you to decide which areas to focus on when planning your professional development. The Self-Assessment Tool is a series of questions that rank your areas for growth. Get started now at *SOA.org/competency-framework.* A

THE SOFTER SKILLS

You can have all the business and strategic intelligence in the world. However, you'll be successful in the boardroom only if you are able to build relationships with management and other board members and know when and how to effectively speak up.

"What's more important than anything else is your relationship with people and the ability to influence a board," said Claude Lamoureux, FSA, FCIA, former president and CEO of the Ontario Teachers' Pension Plan; he currently chairs the nominating committee of the Public Sector Pension Investment Board and The Learning Partnership. "Teachers, a lot of times, would appoint some younger people to the board, and they had a lot of trouble influencing other, more senior people. So it's the ability to deal with people and convince them that your point of view makes sense and to understand that things don't happen just in the boardroom—that you have to do a lot of work outside the boardroom if there's a critical issue. To me, the transition from being an actuary to going on a board has to do with not how smart you are but how convincing you can be."

It's also critical to know when to communicate concerns and how to do that in a way that doesn't demean or diminish management or other board members. "You can have some environments whereby not much is asked nor is much received from board members," said Neary. "But if you bring on the right people, the dynamic that can exist on a board can be very beneficial to success, and it doesn't have to cross over that line of telling management what to do. It can just simply be, 'You know, I had this prior experience in my own career where these pilots had every earmark of success only to be disappointing later because we missed one or two assumptions. So could we go a little slower and validate some of these assumptions before we jump in?'"

Cloninger agreed diplomacy is a vital skill. "Boards like to have members who are going to be fairly collegial and get along with other board members," he said. "You have to develop the ability to listen. Yet you also need the ability to both discern what's valid information and what information might need to be probed. So you have to develop an ability to think critically without reflecting criticism, so to speak."

Reading people and being able to think on your feet will also serve you well. "While other board members are important decision makers, they're likely not going to be subject-matter experts in whatever the particular issue is," according to Zimpleman. "You might have somebody who's a marketing expert. We've got a board member who's a Ph.D. in nutrition. They don't understand insurance, risk management, and so forth and so on. So communication and the ability to not overcomplicate issues are absolutely critical. That's where reading the audience and adjusting your message as necessary is important. You have to start at a very high level and then, hopefully, as you read the audience and see they're comprehending what you're saying, you can get slightly more granular. If you go too far too fast, you're going to lose them, and you're not going to be effective."

BUILDING A FOUNDATION

If you don't currently possess those skills, you'll have to begin working to develop them. While you're at it, also begin learning the fundamentals of corporate governance. "Most actuaries aren't very knowledgeable about corporate governance," said Phil Briggs, FSA, who began serving on boards in earnest after his retirement from MetLife. He has served as a board member for Trizec Properties, Interstate Bakeries and Blue Cross/Blue Shield, in addition to several subsidiary boards during his career. "They also don't necessarily know much about the business practices of a company. Some basic knowledge of those things would be useful

Grow Your Skill Sets: Volunteer with the SOA

THE SOA OFFERS many opportunities for you to expand your leadership skills such as agenda planning, delegating, strategic planning, decision making and managing virtual teams via volunteer roles. You can also improve collaboration and communication skills such as brainstorming, negotiating and developing presentations by volunteering. To learn more about volunteering, visit *SOA.org/volunteer.* A to an actuary who's interested in becoming a member of a board."

Briggs himself lacked that knowledge and wished he'd acquired it earlier. "My regret with regard to board activity is that my company didn't encourage me to learn more about boards and governance and so on at an earlier stage in my career," he said. "I could have been a more effective board member and more effective for my company if I'd had some experience outside of my company, and I could have brought that knowledge to bear on our own board. A lot of things I learned after I retired were things I wish I had known before I retired."

Ultimately, however, the best way to prepare is to focus on continued growth and professionalism. "Just being an excellent professional and standing out among your peers is what's going to set you apart," contended Brad Smith, FSA, chairman at Milliman Inc., who has served as an advisor to commercial boards. "Your reputation, integrity and professional standing are what is going to appeal to a CEO or chairman of a board. I tell all our consultants that early in your career, you focus on getting your credentials. Then you focus on working in a company or consulting firm that's of high integrity and respected. Then 10 or 15 years down the road, when people start to call you as opposed to you calling them, it's because you've built your personal brand. The first year I was with Milliman, I got assignments because I was with Milliman. In the 15th year, I got assignments because I was Brad Smith.

"It's the non-actuarial skill set—the communications, the understanding of other disciplines like accounting, law, marketing and so forth—that is going to make a successful actuary at the higher level a candidate for a board position," Smith concluded. "I think you train to be excellent and well-respected in your profession. The rest follows." A

G.M. Filisko is a freelance writer. She can be contacted at *gabifil@rcn.com*.

Actuaries On Boards Task Force: W. James MacGinnitie, FSA, FCAS, MAAA, HonFFA; Nancy Bennett, FSA, CERA, MAAA; Max Rudolph, FSA, CERA, MAAA; Vinaya Sharma, FSA, CERA; Thomas Terry, FSA EA, FCA, MAAA; John G. Turner, FSA, MAAA; Mike McLaughlin, FSA, CERA, MAAA, FIA; and Amanda C. Fox.

The Way To Wellness

The increase in corporate wellness programs is creating opportunities for actuaries. Here's how to get in on the action. By David A. Sotelo

It's difficult to argue that we aren't in the middle of an employee wellness revolution. With average U.S. insurance premiums topping $15,000 per family per year for employer-sponsored health coverage,[1] employers and payers alike are searching harder than ever for new and creative ways to rein in health care spending. Recent studies report that more than 80 percent of American employers with at least 50 employees have some form of wellness program already in place,[2] and the Affordable Care Act has placed wellness in the spotlight for smaller employers by facilitating access to these programs for those who may have previously found them financially unjustifiable.

Given the bright future ahead for wellness programs in the corporate workplace, it seems obvious that every health actuary in the United States should be familiar with at least the core concepts of wellness product design and evaluation. However, as more and more insurers are creating and launching their own proprietary wellness initiatives, this budding field has eluded the grasp of most insurance organization actuaries.

What many health actuaries may not realize is that our competencies in pricing and financial evaluation are valuable assets that go largely unrepresented in the field of wellness and health promotion. Without this crucial angle, wellness program product design often lacks an important focus on cost effectiveness, and many insurers' wellness products have evolved as lost children managed outside of the core health plan leadership circle. The future success of these products will depend on insurers' ability to design highly cost-effective programs with results that can be reconciled to and integrated with trends in medical and pharmacy claim costs.

A PRIMER ON WELLNESS AND HEALTH PROMOTION

Wellness is a broad term describing employer-centric strategies to combat unhealthy activities that contribute to avoidable health care spending. It covers everything from employee gym memberships to targeted one-on-one health coaching. This writing specifically focuses on wellness programs or packages of programs designed, marketed and administered by health insurance organizations.

Most comprehensive wellness product portfolios consist of a variety of programs loosely distinguished by whether or not they are on-site. On-site programs are services provided by health care practitioners and educators at the employer's physical worksite, including live nurse screenings, flu and immunization clinics, and health education classes. Programs that are not traditionally provided on-site include health risk questionnaires, multi-stage group fitness competitions and self-paced lifestyle improvement courses.

The evaluation of wellness programs and their benefits from the *employer's* perspective is a topic that has already received some attention from within the health care industry. The Health Project's C. Everett Koop Award, for example, recognizes programs with demonstrated success promoting personal health and cost-effective health care utilization. Award recipients are typically large employer groups with a multi-level evaluation framework for their own wellness and health promotion programs. The focus of their reported success, however, is on ROI in terms of reduced sick days, enhanced productivity, and reductions to disability costs in addition to any medical and pharmacy cost savings. Many of these measures have limited relevance to health plans with a uniquely different set of wellness program goals.

To an insurer, wellness programs offered alongside comprehensive major medical coverage offer two primary advantages:

Wellness Program Research Project

IF YOU'VE BEEN WONDERING lately about opportunities for actuaries in the world of wellness programs, you're in luck! The SOA has partnered with Sibson Consulting to conduct a research project on a proposed actuarial model for wellness.

The objectives for the study are:

- Envision the possibilities for an actuarial model and the actuary's role in wellness;
- Document what currently exists in the marketplace; and
- Establish a conceptual actuarial model framework to support actuaries in the modeling, evaluation and assessment of wellness programs and the impact of health on the various actuarial practice areas.

The project is anticipated to finish in fall 2012. It will be available on the SOA website in the Health Research Projects section. If you have any questions about the project, please contact Steve Siegel at *ssiegel@soa.org*.

1. Suppression of health care cost trend due to reduced utilization and severity of illness.
2. Member retention *and* growth, most effectively when extended to employees who are uncovered or insured by a competing health plan.

Understanding the extent to which wellness programs realize these objectives and designing programs that achieve these goals cost-effectively are the two major playing chips that a health plan actuary can bring to the table.

THE ACTUARY AS AN EVALUATOR

Performance evaluation for wellness programs to date has primarily focused on measuring the behaviors and health status measures directly targeted by these programs. It is common to report on "the number of participants" who have "above average/below average/increased/decreased" measures such as "cigarette use/salt intake/cholesterol levels/BMI." Ordinarily, these metrics are sampled once before the wellness program, and a second time afterward. Measurements for those participating in the program may be compared against non-participants, or against standardized benchmarks.

Besides the statistical bias that is evident in these types of studies, these metrics don't address the primary factor that drives employers to adopt these programs in the first place: reining in medical expenses. Actuaries are equipped with the knowledge and tools to answer the question, "How has wellness program participation contributed to medical cost savings?"

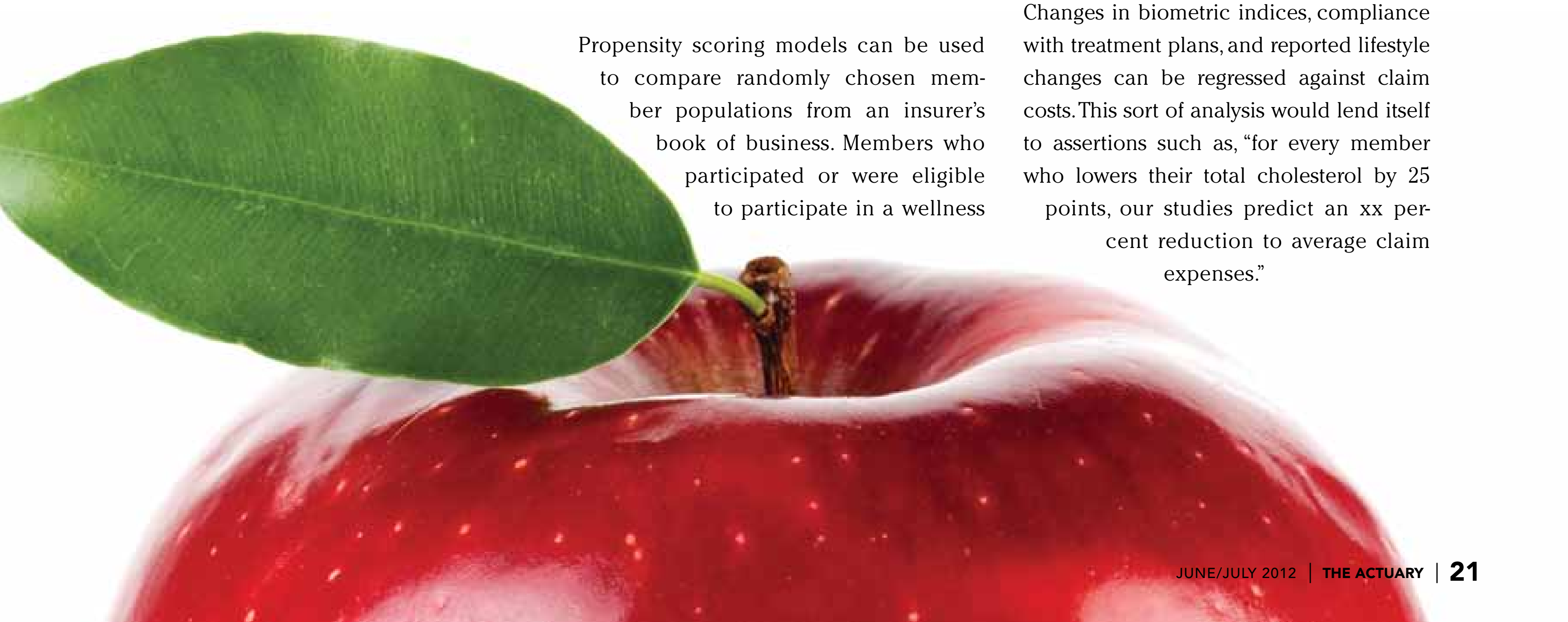
Approaches to answering this question are not new or revolutionary. Many of the tools available to actuaries evaluating wellness and health promotion programs have already been tested and refined on another class of health care interventions: disease management (DM) programs. The work of transforming complex financial analyses designed to measure an employer's return on its DM investment into a framework relevant to an insurer measuring the impact of its wellness program is a bridge that few actuaries have attempted to cross.

Propensity scoring models can be used to compare randomly chosen member populations from an insurer's book of business. Members who participated or were eligible to participate in a wellness program can be compared to non-participants or members who were ineligible to participate. Health plans can leverage the size of their book of business to create samples with high statistical credibility, and can enhance the model by applying risk adjustment to reduce the effect of selection bias.

Using regression models, dummy variables can be assigned to participating and non-participating populations to test for statistically significant effects of wellness programs. An application of this analysis would be to regress participation in a wellness program against year-over-year changes in claim costs for participating versus non-participating, or eligible versus non-eligible populations.

A more sophisticated extension of regression analysis would marry wellness program participation data with clinical measurements from the physician's office. Changes in biometric indices, compliance with treatment plans, and reported lifestyle changes can be regressed against claim costs. This sort of analysis would lend itself to assertions such as, "for every member who lowers their total cholesterol by 25 points, our studies predict an xx percent reduction to average claim expenses."

Actuaries are equipped with the knowledge and tools to answer the question, "How has wellness program participation contributed to medical cost savings?"



More Information on Wellness

FOR MORE INFORMATION on this subject, visit the blog post by Andrew Sykes, ASA, FFA, at *www.blog.soa.org,* search term Andrew Sykes, where he discusses turning wellness from a dream to a real business advantage.

In addition to measuring the impact of wellness on cost trends for existing members, health plans will also need to understand the effect that these programs have on member retention and, in cases where non-members are eligible to participate, membership growth. The value that actuaries bring to this discussion is our ability to identify and evaluate the drivers of membership retention and growth attributable to sources other than wellness program participation. By factoring out variance due to changes in employer contribution strategy, member cost sharing and network adequacy, actuaries can build an evaluation framework that singles out the effect of wellness programs alone on member retention and growth.

THE ACTUARY AS AN ADVOCATE

In addition to providing retrospective analytics on performance, actuaries can also make valuable contributions to prospective strategy, design and pricing for wellness products. In the absence of a strategic focus on performance objectives, it's easy for wellness and health promotion product leaders to overemphasize the value of brand marketing and competitive benchmarking alone when developing goals for in-house wellness and health promotion products, without fully understanding the full marginal economic benefit generated by these programs.

Insurers' wellness program strategies have historically been only loosely results-oriented. A major challenge here is the long turnaround time before positive results are realized on investment in preventive-oriented health promotion activities. Similarly, the quantification of positive outcomes for wellness programs has not been historically well defined. Proper wellness program strategy for health plans should have clearly defined goals for medical cost trend suppression and membership retention/growth, including an appropriate turnaround time (in years) before positive results are to be expected.

Actuaries are able to place quantifiable value on these measures and develop comparative analyses that advocate for strategies most effectively aligned toward achieving wellness program goals. Actuaries can address questions such as: "What is the minimum number of participants needed to break even on per-purchaser start-up costs?" "What is the marginal benefit of each new member conversion that results from non-member program participation?" and, "At what point in time should wellness activities begin to have a measurable effect on cost trends and clinical health measures?"

Responsible wellness program pricing should be informed by all tangible costs, including development, overhead, marketing and fees, as well as intangible benefits that offset those costs, such as membership growth that results from enhanced brand recognition. Actuaries must approach wellness program pricing from a holistic perspective, often requiring evangelical skills at communicating and socializing economic concepts and drivers that are difficult to understand and easy to ignore.

Juggling pricing decisions for a portfolio of unique wellness products requires a deep understanding of the economics behind each one. For on-site programs, as

one example, many of the services performed at the employer's worksite are already accessible to members visiting the doctor's office. The actuary's contribution here is the ability to capture and illustrate the additional resources needed to deliver these services at the worksite instead of the doctor's office, as well as demonstrating the offsetting gain to the health plan in doing so. The actuary can also leverage skills at evaluating and interpreting emerging claim experience to opine on whether or not participation targets for various wellness programs are reasonable given historical patterns.

As wellness programs have gained more traction in the workplace, employers have begun to demand stronger demonstrations of value. Traditional pitches focus on improvements in self-reported health status among members participating in wellness programs. Emergent approaches merge clinical outcomes with self-reported data to add to the demonstration of improved health status (e.g., reduced BMI, higher preventive screening rates and clinical outcome benchmarking). The next evolution of this value demonstration will involve linking improvements in health status to reductions in medical costs. For experience-rated groups, this is a powerful marketing tool that the actuary will be instrumental in shaping.

Actuaries are the key to connecting the economics of wellness programs with insurance premiums charged for medical coverage. The health plan that can offer a multi-year rate guarantee or future renewal premium ceiling contingent on minimum threshold participation in a wellness program has a powerful edge over those who can only offer promises of health status improvement. Defining guardrails and eligibility for this type of arrangement is impossible without the involvement of actuaries who have one foot in health plan ratemaking and pricing.

POSITIONING THE ACTUARY AS A WELLNESS LEADER

To wellness program leaders, the value that actuaries can bring to the table is simply not understood. Actuaries must take a proactive role in broadcasting this value, including bringing wellness stakeholders into the pricing and ratemaking process. Actuaries must also find opportunities to extend their services and expertise to wellness product managers and decision makers whenever possible.

Considering the bright future ahead for wellness and health promotion programs, it is important that actuaries embrace this nontraditional field instead of dismissing it as outside the sphere of actuarial expertise. As insurance organizations look for new and creative ways to apply their resources toward bending health care cost trend in evolving markets and regulatory environments, wellness and health promotion appear to be gaining more and more traction as viable tools for staying on the competitive edge. A

David A. Sotelo, ASA, MAAA, is an actuary for Cambia Health Solutions. He can be contacted at *David.Sotelo@Regence.com*.

ENDNOTES

1 "Employer Health Benefits: 2011 Summary of Findings," The Kaiser Family Foundation and Health Research & Education Trust. 2011. *http://ehbs.kff.org/pdf/8226.pdf*

2 "Building a Well Workplace: Six Reasons Why Health Promotion Makes Good Business Sense," Wellness Council of America. *http://www.welcoa.org/wellworkplace/index.php*


ACTUARIAL THINKING:
KNOWING WHEN TO
AVOID LEFT
TURNS

THE SERIES FINALE ON THINKING AND DECISION MAKING, THIS ARTICLE EXPLORES WHEN ACTUARIES SHOULD USE A HEURISTIC OR SYSTEMS ANALYSIS METHOD OF DECISION MAKING. BY NEIL CANTLE AND DAVE INGRAM

DID YOU KNOW THAT FedEx drivers rarely make left turns? Both UPS and FedEx announced back in 2007 that they found that minimizing left turns from their delivery drivers' routes actually saved time and money. You can imagine what they had to go through to make that decision. First, someone had to have the outside-the-box idea, then they studied traffic flow and accident information and then someone probably built a model to simulate a large number of deliveries with and without left turns. Finally, they took that research and turned it into a simple bit of standard operating procedure.

There were four steps to that process. First, someone noticed that there was a problem with routes with left turns. Second, they studied the system of traffic flows and accidents and spotted patterns that suggested an underlying mechanism at work. Third, they built a statistical simulation model of the problem. Fourth, they turned what they learned into a simple rule of thumb or heuristic.

The best actuarial work will usually go through a similar pattern. The actuarial control cycle was developed to ensure that actuaries remember to challenge their models as new data becomes available. Good actuaries are respected for their deep knowledge of how things work and their ability to model them. This merging of the real and statistical worlds to produce usable rules of thumb for non-actuaries is what makes good actuaries valuable.

While the best actuaries may have long been wrapping their statistical models with deep insights up front and simplifying communications at the back end, researchers have been developing those processes into fields all their own. What actuaries now need to consider is whether we need to learn from their research and incorporate the findings into professional actuarial work.

STATISTICS ARE NOT ENOUGH

It is hard to imagine running an insurance company without actuaries; however, many years ago people tried. But they struggled; at least some of them did, to understand the right amount to charge and how much they needed to hold onto to give reasonable assurance that they could pay out future claims and obligations. With the help of actuaries and actuarial methods, the answers to those questions about rates and, reserves became somewhat more routine and with those answers, some insurers have survived for hundreds of years.

People also traded options and futures contracts for thousands of years without the benefit of statistics. Since the application of statistics to finance, the perceived safety of trading of derivatives and the volumes of such trades have increased by orders of magnitude.

Statistics in general, and actuarial techniques in particular, have proven to be immensely powerful methods to find and exploit situations where either combining or separating risks can be advantageous. Statistics is all about data: collecting it, organizing it, analyzing it and interpreting it. In the hands of actuaries, studies of mortality, health, natural disasters, motor accidents, etc., have all yielded to statistical analyses permitting the individual risks to be seen as sufficiently predictable that companies are prepared to accept them for a suitable premium. Centuries of insurance business have been based upon the notion that risk events become somewhat predictable when viewed in sufficient numbers. A particular strength of statistical methods has been that people can focus on the outcomes of a process without necessarily needing to know how it works. This, of course, makes studying the problem much simpler. Much of the world is highly complex, so statistical approaches have provided a way to make progress in understanding even where a detailed knowledge of the problem's mechanics is absent. A mathematician might say that statistics can be used to describe the behavior of phenomena when we do not know the actual equation that defines that behavior.

NEED TO UNDERSTAND

The apparent success of statistical approaches has arguably focused a generation of practitioners on modeling outcomes and not everyone remembers the assumptions that are being made in applying statistical methods to a problem. Whilst studying the trend in outcomes is a powerful way to understand something, it does not provide insight into why the outcome is that. This lack of explanatory power can lead to the results being hard to understand and causing people to miss the fact that the model has ceased to be a suitable representation of the event being studied. This can be particularly dangerous when the models are making predictions about rare events so you cannot directly observe conflicting evidence to highlight that the model is wrong.

The language of statistical analysis is beguilingly obvious and yet great care is actually needed to make sure the underlying assumptions are understood and that the messages from studying the model are actually interpreted correctly. One of the most common mistakes is that people assume correlated factors are actually linked in some way. In fact, correlation makes no statement at all about whether two variables are connected. Much of the criticism leveled at statistics comes from the fact that it applies tests to prove whether a hypothesis of the world is true or not. Depending upon the level of certainty required, there is a feeling that you can pretty much prove anything is true. Again, this largely comes back to the fact that statistics tend to make big predictions about outcomes but do not explain the mechanism by which they occur, giving people little substance to buy in to.

So even with the benefit of actuarial- and statistics-based financial math, actuaries are always complaining—complaining of lack of voice, lack of influence in the affairs of the firms that seem to fundamentally rely upon their expertise.

In another part of the financial services world, many institutions placed very heavy reliance on financial quants, some of whom were literally rocket scientists wielding their statistical models. As we all know, this story did not end well. The rocket scientists and their models missed the big picture of the flawed mortgages deep inside of their incredibly complex structures because they were only looking at the outcomes and not what was really happening underneath.

UNDERSTANDING WHY

Other sciences found that complex behaviors and outcomes are not necessarily the result of complex rules and that the interactions between factors are crucially important to the understanding of such phenomena. This is somewhat at odds with the statistical world where outcomes are all that seem to matter. Applying a systems approach to understanding a problem requires the modeler to first appreciate the whole, before applying reductionist methods to replicate it. This discipline of remaining open-minded about what the driving processes are and then updating one's beliefs in the model is a good way to prevent the model itself being seen as unassailable truth. An unhealthy belief in models arguably contributed to the recent crisis and serves as a good reminder that understanding why the model is producing a particular outcome is a very important part of the modeling process. In two recent articles in *The Actuary,* we described two different approaches to thinking and decision making—Heuristics ("The Evolution of Thinking," Feb./March 2012) and Systems Analysis ("Systems Thinking," April/May 2012)—that are, we believe, the answers to these seemingly opposite problems of underreliance and overreliance on quants.

The approach that is fundamental to actuarial science and to quantitative finance is rooted in a new branch of mathematics, perhaps the youngest branch of that very old tree, statistics.

THE LANGUAGE OF RISK

Statistics allows for a mathematical expression of the unknown future. Its most powerful application is in the determination of an expected value of some future set of possible financial outcomes of an indeterminate agreement between parties. As the applications of statistics were expanded in the financial world, statistics also naturally became the language of risk. The main thrust of economics over the past 50 to 75 years has been to translate the ideas of how the world of commerce works into the language of statistics so that the powerful tools of statistical calculus could be applied. At some point, scientists crossed over into the financial world and started to apply models from quantum physics to stock markets while economists provided the rationale.

But there are (at least) two major flaws to this advance in the scientific and mathematical approach to understanding the future. First, the bulk of humanity has not had the requisite amount of math training to understand any of this. And, in that bulk resides most of the top executives of the very companies who must rely on the quantitative analysis.

"SATISFICING" MEANS CONCLUDING THE DECISION PROCESS WHEN A SATISFACTORY OUTCOME CAN BE FOUND FROM ONE DECISION ALTERNATIVE.

But while the quants were advancing their ability to do analyses of dizzyingly complex financial transactions, psychologists were studying how the bulk of humanity makes their decisions. In *The Actuary* article, "The Evolution of Thinking," (Feb./March 2012), the work of Gerd Gigerenzer was cited explaining the "Fast and Frugal Heuristic" (FFH) as the best representation of how the other 99 percent think. With FFH, people will naturally form decision rules where they automatically evaluate thousands of possible clues and quickly isolate a few that are all that is needed to find a reasonable solution to most problems.

Another psychologist, Gary Klein, in his book *Sources of Power*, describes studies of real people making life-and-death decisions. The process he finds is called Natural Decision Making (NDM). When he dissects the NDM process as it is practiced by true experts in fields as diverse as firefighting and aviation, he finds that the process is usually fairly similar, but not at all similar to the Rational Decision Making (RDM) that is frequently taught in schools. In the RDM process a decision maker will identify potential solutions to a problem and then evaluate the characteristics of the outcomes under those solutions to find the optimal choice.

Herbert Simon (1957) identified a major flaw in the RDM approach. There is no natural limit to the analysis needed to reach the optimal conclusion. Simon suggested that RDM required "unbounded rationality," or, in other words, potentially infinite data and infinite analysis.

Actuarial methods are ultimately a part of an RDM process. The unbounded rationality idea is easily seen in the frequent calls of actuaries for more data and more time to complete the analysis.

Simon went on in his work to develop the idea of "satisficing" as a decision criteria instead of optimizing. "Satisficing" means concluding the decision process when a satisfactory outcome can be found from one decision alternative.

A DIFFERENT APPROACH

The findings of Klein's studies line up well with Simon's "satisficing." The experts studied by Klein spent their time in a pattern that was directly opposed to the RDM model. Under RDM, the decision maker needs to spend most of his or her time studying the alternative solutions. Klein found that in real life, most experienced decision makers spent almost all of their time studying the problem. As they studied that problem, they were constantly eliminating possible solutions as unsatisfactory. They usually only considered one potential solution at a time. When these experienced decision makers ran out of time or were satisfied that they had studied all important aspects of the problem, they then decided to use the single solution that was still under consideration, one that would work.

These two approaches, FFH and NDM, as practiced by Klein's experts appear to fit well into Kaheneman's "Thinking: Fast and Slow." The Heuristics are the fast thinking and the NDM approach the slow thinking. But RDM, which includes most actuarial analysis, is outside of these two common systems of thinking and decision making. Klein found that only very inexperienced decision makers used an RDM approach. This discussion gives a compelling description of why decision makers may not seem to be listening to actuaries.

BIG MISSES AND OUTSIDE THE BOX

One of the reasons why decision makers seem to not be listening to actuaries is the fact that like the financial pricing models of mortgage securities, actuarial work sometimes misses the mark. Not by a small amount. In the phrasing of David Viniar of Goldman Sachs, a "25 standard deviation event." Many people take that to mean that Viniar does not understand how ridiculously remote a 25 standard deviation event would be. But it is actually more likely that he does understand statistics and his comment was a backhanded slam at the total inaccuracy of the models.

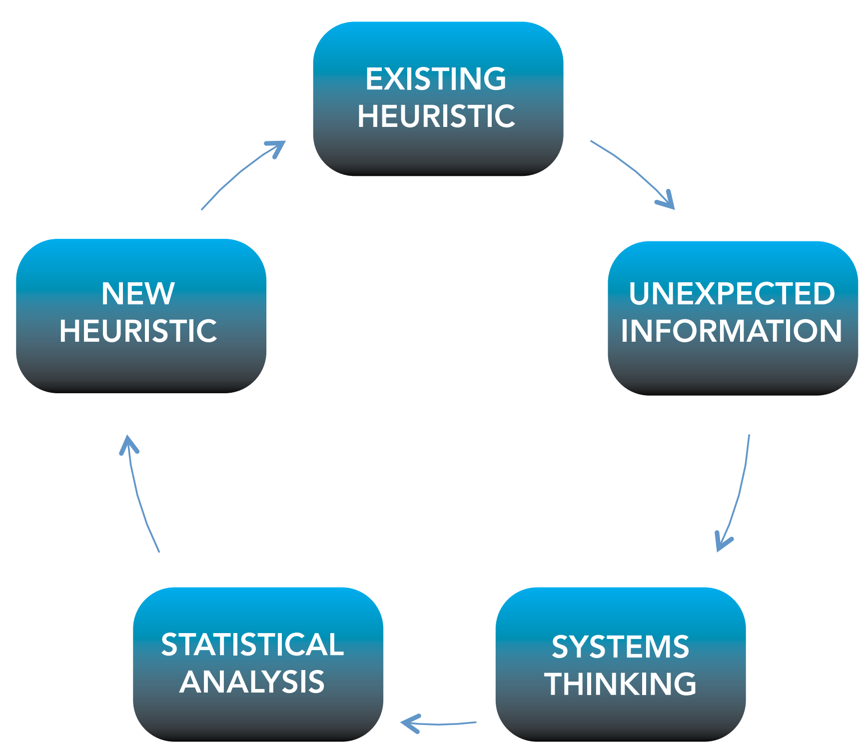
Actuarial models have had big misses as well. In the United Kingdom, actuarial appraisals of annuity liabilities were found to be short by a large fraction in the early part of this century. In the United States, actuarial models of variable annuity guarantees drastically understated the cost of out-of-the-money guarantees in the run up to the dot-com collapse. Other insurance models of natural catastrophe risks have proved to be inadequate to anticipate the frequency and severity of catastrophes that have hit insured zones in the past 10 years. Nassim Taleb's book, *The Black Swan*, is about those types of incidents that are just not visible to the standard analysis techniques.

OUTSIDE-THE-BOX THINKING IS USUALLY BASED UPON SYSTEMS THINKING.

Outside-the-box thinking is usually based upon Systems Thinking. It seems to be so unusual because most people do not try to understand systems most of the time. In most situations, people just assume that tomorrow's weather will be the same as yesterday's. It is computationally more efficient for a brain to spot patterns and trends than to think too deeply about why it is happening that way, so it is not surprising that most people default to studying problems that way.

As we pointed out in *The Actuary* article "Systems Thinking" (April/May 2012), statistical models are by themselves insufficient to capture the range of possibilities of a complex adaptive system. Systems Thinking can provide the insights that allow ac-

HEURISTIC PROCESS



tuaries and other quantitative analysts to "look around the corner" of the situation that they are modeling.

UPDATING THE ACTUARIAL THINKING CYCLE

Recognizing that the modern world is increasingly complex and learning from the insights of those who have studied complex adaptive systems, it is a healthy reminder that we must remain open-minded to see what is in front of us. Integrating techniques more formally into actuarial work that can help to make sense of the underlying mechanisms of problems will help to ground models more clearly in reality and therefore enhance the role of actuaries in explaining their models and demonstrating their value. It will also help users to understand the deficiencies of models so that they appreciate when the model can be used and when it cannot.

Some actuarial work could be identified as specifically targeted to updating a Heuristic (or NDM process). (See image on page 28.)

While most business decisions are based upon a set of existing Heuristics and NDM processes, in the areas where actuaries usually work, there is some recognition that statistical analysis can produce superior results than a simple Heuristic. This is usually because the number of potentially important variables is much larger than can be dealt with by a Heuristic. So the existing Heuristic may well include consulting an actuary for some statistical analysis.

For actuaries to advance from the situation of dissatisfaction with their role in decision making, actuaries need to understand how our work can be used to reform Heuristics and NDM processes, and we need to avoid wrong turns in our statistical analyses that can be reduced by using systems analysis.

WHEN TO AVOID LEFT TURNS

One system that actuaries were late to understand was the market system. Actuaries had little need for understanding the short-term fluctuations of market prices and tended to model market-traded instruments ignoring those fluctuations. However, a vast science grew up that was based almost solely upon the study of those fluctuations in market prices. Coincidentally, Financial Economics itself has been seen to have a vast shortcoming in its appreciation of the market system.

An example of current Systems Thinking applied to problems that actuaries encounter is the Plural Rationalities discussion (recently featured in *The Actuary*, "The Changing Seasons of Risk Attitudes," Feb./March 2011). Both risk attitudes of businesses and risk in the business environment are seen to be a part of an interdependent complex adaptive system.

But the profession cannot afford to continually be 10 years late to applying the latest, best thinking to our work. This new work in the area of Heuristics, NDM and Systems Analysis can be used to improve actuarial processes that already reflect these ideas in perhaps a less developed manner.

Actuaries usually figure out when they shouldn't be taking left turns. Systems Analysis provides the tools for more consistently finding the right route and the reason for avoiding the left turns. NDM and Heuristics provide ways for actuaries to better communicate their findings to others. A

Neil Cantle, ASA, FIA, M.A., is principal and consulting actuary with Milliman, Inc., London. He can be contacted at *neil.cantle@milliman.com*.

David Ingram, FSA, CERA, FRM, PRM, is executive vice president for Willis Re Inc. He can be contacted at *dave.ingram@willis.com*.

RESOURCES:

Gerd Gigerenzer *Rationality for Mortals* (2008)
Daniel Kahneman, *Thinking Fast, Thinking Slow* (2011)
Gary Klein, *Sources of Power: How People Make Decisions* (1998)
Gary Klein, *Streetlights and Shadows* (2009)
Herbert Simon, *A Behavioral Model of Rational Choice* (1957)

Education

THE EVOLUTION OF PROFESSIONAL DEVELOPMENT—IT'S NOT JUST MEETINGS ANYMORE!

BY ROD BUBKE AND JUDY POWILLS

PICTURE THIS SCENARIO; You settle into your seat on the bus or train and get ready for your ride to the office. You pull out your smart phone and see you have two new podcasts available from the Society of Actuaries, one on complexity science and another an update on new tax legislation. You plug in your headphones and listen so you can grow professionally and earn some Continuing Professional Development (CPD) credit, all on your way to work! Is this some distant future we are describing? No, this is a scenario that is taking place now.

Professional Development (PD) does not look the same as it did several years ago when about the only SOA-supported way to develop professionally was to attend a face-to-face meeting and the SOA CPD requirement was not in place. The face-to-face meetings will continue to be a primary source of SOA-supported PD with all the benefits that go along with face-to-face meetings, but there are now other ways to stay up-to-date on what's going on in the profession.

TECHNOLOGY

The SOA offered its first webcast in 2002. Over the last five years, we have delivered more than 150 webcasts. During the 10 years since the first, members and others have attended more than 200 webcasts sponsored or cosponsored by the SOA and the professional interest sections. Webcasts are an efficient way to reach large audiences over a vast geographical area and provide current information. While a well-attended session at a face-to-face meeting may have 100 attendees, a webcast can easily reach many times that number with multiple attendees at each site. Not able to attend the webcast when it was presented? No problem, you can still purchase the recording of the webcast (free if your company purchased the live webcast). You won't be able to ask questions, but you will have the slides and the audio of the presentation.

VIRTUAL SESSIONS

Is there a session at a face-to-face meeting you would really like to attend, but you're not able to make it to the meeting? You may be in luck. In 2009, the SOA began offering virtual sessions to its members so you can attend the meeting session from your own office. Not only can you attend, but, like webcasts, so can other actuaries interested in the same topic. Like webcasts, virtual sessions also allow you to interact in real time via submission of questions. Virtual sessions are another way to reach large audiences with current information. As with webcasts, the recordings of virtual sessions and many meeting sessions are also available if you miss the live event. The SOA has a long tradition of recording sessions and provides more than 500 session recordings per year.

PODCASTS

In 2011, the Actuary of the Future Section sponsored a pilot podcast as another delivery mechanism for PD. Based on the results of that pilot, there is now a structure in place for sections to develop and offer their members podcasts. Podcasts are relatively short presentations that can be used for a variety of topics. As of March 31, there were five sections either in planning or producing a series of podcasts.

E-LEARNING

The current prequalification education structure includes computer-based learning or e-Learning. Each of the e-Learning modules required to receive the FSA designation are also available to the PD audience. The modules cover topics in all practice areas. The module material is on the current prequalification curriculum. If the material was not on the curriculum when you took exams, here is a way for you to learn more about those topics or for you to learn what the students you are supervising are required to learn. Additionally, the SOA has developed new e-courses specifically for PD audiences in the areas of professionalism and effective communication. Check out the e-Learning opportunities—complete the courses where you want, when you want. So far we have talked about changes in how PD is delivered, i.e., how you are able to access it. Have there been other changes? The answer, as you might expect, is absolutely.

COMPETENCY FRAMEWORK

You might be asking yourself, with so many opportunities to choose from, how do I focus on the PD that's right for me? One way is to complete the Competency Framework Self-Assessment Tool on the SOA website. The Competency Framework consists of eight competencies an actuary needs to be successful and the tool will help you identify competencies to focus on.

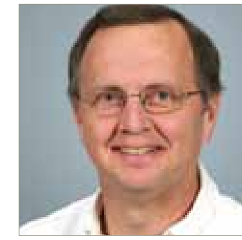
In years gone by, PD consisted almost entirely of the technical aspects of being an actuary. But the Competency Framework includes areas such as Leadership, Communication, and Relationship Management and Interpersonal Collaboration. So not only has the method of delivery of PD changed, but also some of the content. Last year, the SOA and CIA jointly sponsored a Business Savvy seminar, which targeted these and other competencies. Based on the feedback received from the seminar, this seminar will be offered twice in 2012. If you attend an SOA meeting, there will be sessions on these competencies as well as professionalism and others. In addition, a course is currently under design to approach these topics in a more hands-on, active type of approach.

GLOBAL PD

Over the last several years, where SOA members and candidates live and work have also changed. We are a global organization. Therefore, we need to provide PD opportunities to members around the world. There have been seminars on financial reporting held in Hong Kong, joint regional seminars in multiple locations and last year the first SOA symposium was held in Shanghai. While there is more to be done to make PD available to our international members, there are some programs currently taking place.

SOA'S MAIN FUNCTIONS

The two main functions of the SOA are education and research. Education does not end when someone attains their FSA. Education is a lifelong activity and it is imperative that actuaries stay current with the developments in the profession and the businesses we work in. PD is so important to the SOA that in 2009 the Professional Development Committee (PDC) was established. The charge of the PDC is to ensure the SOA's PD program meets the diverse development needs of the profession and provides the highest quality learning experiences. The PDC and SOA staff are committed to meeting this charge.


Rod Bubke


Judy Powills

FORMAL REQUIREMENT

All actuaries now have a formal CPD requirement. So, for that reason alone, you should take advantage of whatever PD opportunities that meet your needs. But more importantly, actively working at PD will help you grow professionally and be a better actuary. 🅰

Rod Bubke, FSA, MAAA, is VP—Insurance and Annuity Valuation for Ameriprise Financial Inc. He can be contacted at *rod.l.bubke@ampf.com.*

Judy Powills is senior director of Curriculum and Content Development for the Society of Actuaries. She can be contacted at *jpowills@soa.org.*

Continuing Professional Development Past And Present

THE SOA'S EDUCATION DEPARTMENT ASKED A FEW MEMBERS WITH VARYING AMOUNTS OF WORK EXPERIENCE ABOUT THEIR CONTINUING PROFESSIONAL DEVELOPMENT EXPERIENCES THROUGH THE YEARS AND HOW THINGS HAVE CHANGED. HERE'S YOUR CHANCE TO READ THEIR INTERESTING AND ENLIGHTENING ANSWERS.

Prior to the new CPD requirements, I would attend one or two SOA-sponsored meetings/symposiums each year and focus on sessions that were specific to my area of work. In addition, I'd read section newsletters and publications from consultants, reinsurers and audit firms.

I now have a more formalized approach to the process and I have included certain topics like professionalism and business skills

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Continuing Professional Development Past And Present continued

to a greater extent than in the past. Also, the breadth and scope of development opportunities have increased significantly over the past few years—webcasts and other e-Learning courses have become very popular. Our company periodically organizes actuarial "roundtable" events where individuals give presentations on current industry topics and typically include an outside speaker—a direct result of the new PD requirements. Those events have been particularly beneficial as they promote increased communication and camaraderie across departments and locations.

I sense that actuaries at our company have become more diligent about ensuring they are keeping up-to-date with their professional development requirements. The program is fairly flexible and offers a good balance between self-study and organized activities. I like the fact that it allows for both job-specific requirements as well as more general business management (soft) skills. The availability of an online documentation tool like TRACE has been very helpful. I think the changes have led to an increase in the overall level and scope of developmental opportunities for our membership.

Don Lyons, FSA, MAAA, is senior vice president, corporate actuary, Sammons Financial Group: Midland National Life Insurance Company, North American Co for Life and Health Insurance.

I recently attended a business savvy skills seminar that was chock-full of practical ideas for communicating better. I found particular value in the section on persuasive communication, and I've been able to observe the negotiation skills that the instructor highlighted in various settings since I attended the seminar. It's also the first seminar I've ever attended where there was enough time to really work through exercises to maximize their value. A session like this strengthens an actuary's ability to clearly get his/her message across, particularly to a non-actuarial audience. As a profession, we can add considerable value to conversations on many topics—but only if we can figure out how to clearly communicate what we know. I would certainly recommend the seminar to other actuaries, senior and junior.

Caroline Rendall, FSA, FCIA, MAAA, is an actuary with Foresters.

I recently attended a business savvy skills seminar that was chock-full of practical ideas for communicating better.

I think of professional development as occurring from two primary sources: education and experience. During my career, the opportunities for continuing education have exploded. As a young FSA, I looked forward to two actuarial meetings a year (not very many more were available) and the arrival of *The Actuary*. We also had a local actuarial club that tried to meet quarterly, and a few industry publications that were circulated in the department. I tried to talk to other actuaries about their work to see what I could learn, and there was always self-study of textbooks, regulations, and actuarial standards. My own work experience was a very important part of my professional development, so being exposed to a variety of assignments was very important. Ten years after becoming an FSA, I wanted to broaden myself, and I began taking MBA courses at night, solely for the experience. Eventually I completed the degree.

The profession and its members now benefit from a vast array of continuing education opportunities. Section newsletters, specialty meetings, seminars and webinars now provide more of my continuing education than the sources that existed when I was a new FSA. They offer greater depth in a much greater variety of topics than was possible earlier. The sections, specialty meetings and seminars also provide more effective networking than the general meetings. The Internet greatly expands access to materials for self-study. Although I now live in a very small actuarial community in a physical sense, I do not feel as isolated as I did in a larger insurance center earlier in my career.

As a young actuary, I never thought about the effect that personal experience outside of the office would have on my professional development, but that, too, is very important. Within the profession, the access to increased continuing education can be very powerful, especially if it is coupled to good experience.

Jerry F. Enoch, FSA, MAAA, is vice president and chief actuary, Alfa Life Insurance Corp.

Working as a pension actuary for Towers Watson in Calgary, there are many opportunities to learn and grow by working with a diverse group of actuaries, all with different strengths. I hope to become a pension consultant in the future, and so I am currently focusing on becoming more involved with client-facing situations and activities to further develop my presentation and communication skills. Towers Watson offers training opportunities at different associate levels which I will take advantage of when available. In terms of SOA professional development offerings, I am interested in taking advantage of webcasts, e-Learning and podcasts as these formats are globally accessible these days. In the future, I am also considering getting involved in helping to develop FSA exam questions and grading.

Adelina Lough, FSA, is an actuarial analyst with Towers Watson.

As the appointed actuary, I take my continuing education very seriously. After experiencing the many ups and downs in the markets over the years, I have seen numerous product types come and go. As actuaries, we are relied upon to opine on the risks of these products. I received my FSA in 2001, and at the time continuing education requirement meant that I just basically needed to attend seminars once a year that may or may not address the specific issues I faced. As a result, I found myself reaching out to numerous experts in the field to get a better understanding of risks and viewpoints. I would also read any material I could get my hands on to better understand the risks. With the new CPD requirements my approach is still very similar. However, I have found that with the new CPD requirement, access to information is much more available. There are many more meetings, articles and resources that better address the specific issues I face.

Chad Padgett, FSA, MAAA, is vice president, appointed actuary with Forethought Financial Group.

The Education Committee of the Singapore Actuarial Society, which I chair, tries to ensure that there are enough opportunities for SOA (and other professional actuarial bodies) members in Singapore to meet their PD requirements. The challenge of being based in Asia is naturally that our members cannot easily attend the various live meetings held in North America. Hence the international members are looking for more local PD opportunities and also overseas content available via webinars, recorded meeting sessions, e-Learning, etc. The SOA's recent increase in options via these electronic delivery formats has vastly increased the PD content options available to international members—and has been much appreciated by international members.

I am interested in taking advantage of webcasts, e-Learning and podcasts as these formats are globally accessible …

The attendance at professional development events allows for structured PD credit and has the advantage of bringing networking opportunities with other members and also to engage in discussions with the speakers. We were fortunate in Singapore last year to have various distinguished members of the SOA speak at our afternoon forums for members of the Singapore Actuarial Society. The speakers included Brad Smith, Rob Brown, Tom Herget and Prof. Elias Shiu and they spoke on a variety of interesting actuarial topics. These excellent speakers gave our members in Asia a look into the latest developments and research in North America and beyond. We hope that members of the SOA visiting cities in Asia continue to volunteer to give these talks that serve as important structured PD opportunities for international members.

Finally, reading the latest articles on actuarial and related topics continues to be popular with international members as a cost-effective way to meet some of the PD requirements through self-study. The syllabus reading lists for the various actuarial exams provide members with an excellent source for latest and top-notch publications in a particular area of interest (e.g., ERM). International members can also, like I do, volunteer to be involved in the exam setting process which provides an excellent opportunity to become familiar with the latest readings in a particular field.

Gavin R. Maistry, FSA, CERA, is chief actuary, Life Asia, Munich Reinsurance Committee and chair of the Education Committee of the Singapore Actuarial Society.

My professional development used to be heavily reliant upon attendance at SOA meetings or local actuarial events. In recent years, I have found the variety of webcasts offered through the SOA and other actuarial organizations to be a great means of supplementing these more traditional educational opportunities. The webcast topics are often timely and relevant to my job responsibilities; and they provide a cost-effective way for me and my staff to keep current on the changing actuarial landscape. A

Brian Mamola, FSA, MAAA, is vice president—Corporate Actuarial with FBL Financial Group, Inc.

Section Highlights

FINANCIAL REPORTING SECTION

BY ROB FRASCA

Financial reporting actuaries continue to follow the discussions occurring within the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) related to insurance accounting. Under International Financial Reporting Standards (IFRS), a gap exists in the standards regarding the treatment of insurance contracts. This gap is currently filled by allowing companies to continue treating insurance as they had under their accounting basis prior to adoption of IFRS. In the United States, the FASB has recognized that current accounting, as embodied within U.S. Generally Accepted Accounting Principles (GAAP), is ill-equipped to handle the current array of insurance products in the marketplace. Thus, both in the United States and internationally, there is a recognition that development of a modern, comprehensive framework for insurance accounting is needed.

Development of this new framework has been uneven as the FASB and IASB have been pursuing seemingly independent paths. More recently, the two accounting boards have shown a commitment to working together with an objective of agreeing on a unified standard. Though complete convergence now appears unlikely, at least in the near term, the conceptual approaches and many of the details of the frameworks being discussed are the same across the two boards. Exposure Drafts of proposed guidance are expected by late 2012, building on earlier drafts and discussion papers exposed to the industry. If things progress well, final accounting standards could be completed in 2013 with implementation beginning perhaps in 2016.

Even though the timing is uncertain, adoption of new insurance accounting standards will represent a sea change to the way financial results are reported, with consequent implications to insurance product pricing and design. The Financial Reporting Section is monitoring developments closely and is serving its members both in sponsoring educational offerings to keep members informed of developments and in funding research projects to help actuaries, accountants and other interested parties understand the impacts of the changes that are being proposed. A

Rob Frasca, FSA, MAAA, is executive director, Ernst & Young LLP, and chairperson for the Financial Reporting Section. He can be contacted at *rob.frasca@ey.com.*

LONG TERM CARE INSURANCE SECTION

BY JASON BUSHEY

The Long Term Care Insurance (LTCI) Section is different from most sections in that its membership is not limited to actuaries. In fact, a sizable minority, 44 percent, of the members are non-actuaries. The section council has three appointed affiliate members who are non-actuaries to help represent the non-actuarial membership. The section is committed to supporting and improving the LTC insurance industry. The section does this in two ways.

The first is by funding research. Currently, the section is co-sponsoring a research project on morbidity improvement using the results of the National Long Term Care Survey, which is based on general population data. The specific aims of the study are to estimate the change over time in both ADL (activities of daily living) and CI (cognitive impairment) morbidity rates, assess sensitivity to alternative sets of cross-sectional and longitudinal sampling weights, and assess the impact of alternative underwriting protocols.

The section is also co-sponsoring a research project on the natural hedge characteristics of the relatively new combination products where long-term care insurance is paired with life insurance or annuities. The study will demonstrate the hedging characteristics by showing the profit sensitivities to key assumptions for a stand-alone long-term care product, a life/long-term care combination product, and an annuity/long-term care combination product.

The second way the section supports the industry is by supporting activities that will improve the industry. The section is a sponsor of the LTC Think Tank. This group of industry volunteers made up of industry leaders periodically meet to discuss ideas on how to improve the industry and to lend support to other groups that are working on specific initiatives in support of the industry.

The LTCI Section is sponsoring the LTCI Refinement Work Group. This group has been formed to represent companies, regulators and consumers, as well as overall industry objectives: fewer consumer complaints, fewer regulatory issues, more carriers participating, and generally more sales to keep the industry moving ahead. The LTCI Refinement Work Group has two subgroups (Stand-alone LTC and Combo Products) that are each working on the first draft of their suggested solutions. Each subgroup is also working to design questions for a survey that will go out to insurance companies. This survey will enable testing the interest that carriers have regarding the group's suggested solutions. After receiving the survey responses, the group will be able to further refine its suggestions. A

Jason Bushey, FSA, MAAA, is director, Actuarial & Research, for LifeSecure Insurance Co., and chairperson for the Long Term Care Insurance Section. He can be contacted at *jbushey@lifesecureltc.com.*

MANAGEMENT & PERSONAL DEVELOPMENT SECTION

BY BRIAN PAULEY

The Society of Actuaries (SOA) has put much focus on the Competency Framework in recent years. The framework is designed to reflect the knowledge, skills and abilities actuaries need to be valued and successful in our rapidly changing world. It is made up of eight interrelated key competencies. The most important one is Leadership.

Actuarial education and work is very technically focused. We may be tempted to believe leadership development is for "soft people." That could not be farther from the truth. Actuaries frequently suffer from the perception that they are not as skilled as other professions in soft skills such as leadership and communication. In order to combat this and level the playing field with competing professions, it is more important than ever for us to intentionally develop our leadership.

It is an overlooked truth that leadership can be learned. Some dismiss this under the falsehood that leaders are born, not made. While some do possess natural abilities enabling them to be more effective leaders, those who struggle with leadership often just have the wrong attitude. For example, many people believe that leadership is all about position in an organization. While it is true some leaders do have lofty positions within an organization, there are many leaders who do not. Mother Teresa spent her adult life helping the poor, hungry and dying in Calcutta, India. She even won the Nobel Peace Prize in 1979. She is considered a remarkable leader despite not having a prestigious title. What she had was tremendous influence, and the ability to influence others is what determines our leadership effectiveness. Not all of us are destined to change the world with our leadership. But, we all have the potential to have a positive impact on our friends and families, the organizations we work for and society. To reach this potential, we must develop our leadership.

When we improve our leadership, we benefit from the compounding effect it has on the other seven competencies. Consider the Technical Skills & Analytical Problem Solving competency, a well-known strength of actuaries. By being a good problem solver, we merely get a seat at the problem-solving table. Now, think about the problem-solving leader: one who thinks differently, designs solutions others called too difficult, and teaches individuals and teams how to solve problems on their own. You get the picture. The returns we achieve on leadership development set it apart from the other competencies.

Through the SOA Management & Personal Development (MPD) Section, actuaries have a resource to improve this vital skill. In 2011, MPD sponsored sessions for all four major SOA meetings. Leadership book review breakfast presentations continue to be popular sessions at these meetings. MPD's quarterly newsletter, *The Stepping Stone*, features articles actuaries can use to improve their leadership. Many of these articles are written by your peers.

Leadership can and should be learned and developed. Regardless of where you are on your leadership journey, you can make it even better. The MPD Section has the resources to help. A

Brian Pauley, FSA, MAAA, is a managing actuary with Humana, Inc., and a council member for the Management & Personal Development Section. He can be contacted at *bpauley@humana.com.*

Out Of The Office

ACTUARIES ON THEIR OWN TIME

It's amazing what one can do with color, a paint brush and a blank canvas. Meet four actuaries who have an artistic flair.

Erythrophobia, the fear of red—by Jeffrey A. Leitz, FSA, CERA, chief executive officer, Walbridge Capital Advisors LLC. He can be contacted at *jleitz@walbridgecapital.com.*

JEFFREY A. LEITZ has been creating artwork for 45 years. His grandparents enrolled him in private art lessons at age 5, after he won several coloring contests. "Creating fine art balances and enhances the analytical aspect of my quantitative thinking," Leitz said. "I have strived to master many styles, including Dutch masters, Impressionism, Abstract Expressionism and Stream of Consciousness Graffiti." When asked if there is an actuarial tie-in to creating artwork, Leitz had this to say, "Yes, many works relate to my quantitative alternative investment strategies. For example, 'Erythrophobia, the fear of Red' is a metaphor for avoiding financial loss by protecting capital from market shocks and is inscribed with formula graffiti relating to my hedge fund."

Skystory—by Anna Rappaport, FSA, MAAA, consulting actuary, Anna Rappaport Consulting. She can be contacted at *anna@annarappaport.com.*

ANNA RAPPAPORT started taking art lessons when she was about 8 years old. "My parents encouraged me and arranged for me to go to art lessons in Baton Rouge, La., where we lived. I took the bus downtown to go to lessons, one of my few types of journeys to town. I also remember making craft projects with my mother. One I particularly remember was building houses from shoe boxes and scrap materials such as thread spools. This was at a time when kids went to few special activities and this activity made a big impression on me," Rappaport said of her artistic beginnings.

When asked what she likes best about creating art, Rappaport said, "Making art enables me to do my 'own thing,' be creative and move into a different space. I really enjoy thinking about different ideas and trying to get them on paper."

Rappaport described her art this way, "Someone once asked me if, 'I color inside the lines or outside of the lines.' My response was that I make my own lines. I have a number of different series and each is unique. Many are abstract collages building in pieces of paper, pieces of my own photos, ink splatter, rubber stamps and more. I love doing mixed media. I am very interested in textures, movement and colors. I have also done flowers and nature drawings, but generally they are my own interpretation rather than trying to make a reproduction of what is there. I try to capture the feeling of the place."

"I believe there is a tie-in, in the way I think about and approach both," Rappaport said when asked if there is an actuarial tie-in to creating artwork. "In both, I like to define my own space, pull together and synthesize different ideas (and materials) and create a new whole. I think art has helped my actuarial work. I do not work 'sequentially' in either," she added. A

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View from Armenzano—by Debi Gero, FSA, MAAA, senior vice president, chief risk officer, Sunamerica. She can be contacted at *artist@debigero.com*.

DEBI GERO started creating artwork as an adult. "I started art classes in 1997, so it will be 15 years this fall," she said. "I would pass an art school, Brentwood Art Center, every day on my way to and from work. One day they had a sign in the window advertising the upcoming annual student art show, so I attended the show. I was blown away by the quality of art created by the students. I wistfully thought 'maybe someday I can go to a school like this.' On the way out I stopped at the front counter to look at their brochure and asked the woman at the desk what one had to do to qualify to take classes. 'Sign up.' Within two weeks I started the Thursday night beginning drawing class."

Gero can't narrow down what she likes best about creating art. "The journey from a beginning student to a professional artist has been special at every step. The support from friends and family, the challenge of learning something new, the friendships formed, the wonder of discovery, the hope that comes with the new art gadget just purchased that it will make everything better, and of course, pretty much every minute spent in the creative process have made the journey so special. And the thrill of knowing that the journey is far from over."

Gero described her art as, "various forms of representational." "But I like to focus on things that have strong sense of light, and often lighthearted," she added.

Gero described the actuarial tie-in to creating artwork like this, "In a class when we are told to divide our page into fourths, for example, I can do the math. I would describe some of my work as having more of a business tie-in than an actuarial tie-in per se. For example, I created a series of mixed media pieces during the financial crisis that combined cardboard from boxes found outside a grocery store (instead of a canvas), pages from *The Wall Street Journal*, and acrylic paint."

Carnation—by Joyce Zhang, FSA, actuarial associate, Towers Watson. She can be contacted at *yzhang2@alumni.sfu.ca.*

JOYCE ZHANG will tell you when asked how she got started making art, "I like and enjoy painting very much and have been painting in my spare time since I was very young. I elected a painting course in elementary school and started my artwork there. However, due to other higher priority things, I didn't continue painting courses past elementary school. I am only an amateur, however, not a professional painter."

"My creativity and imagination are not bounded when I paint," Zhang said when asked what she likes best about creating art. "Painting helps me release my pressure, helps me relax and painting with brighter colors reminds me there's always a light at the end of the tunnel. I get self-motivated through painting and I am really happy each time I create and complete a new piece of art."

Zhang doesn't think she's developed her own painting style yet. "But, I like to paint nature scenes, such as plants, landscapes, etc. A lot of times, I paint based on pictures."

Is there an actuarial tie-in to creating artwork? Zhang had this to say, "I think creative thinking, being able to see the whole picture and also paying attention to details are a couple types of actuarial tie-ins to creating artwork." A

The SOA At Work

MOVING INTO NEW AREAS

HELPING ACTUARIES to gain recognition and expand their roles into new areas has been an SOA initiative for several years. Evidence of this can be seen in the majority of recent SOA activity, including a series of articles in this magazine, "Actuaries On Boards" (see page 12 for the third part in the five-part series), the SOA's business analytics project that was started in 2011, and a new project on broader financial services that will get underway soon.

The series of articles highlight and explore the skills and knowledge actuaries have to offer as members of a board of directors, as well as what it takes to get there. The main topics of the articles are: business/subject matter experience, connections, personality traits, focus and the SOA's role. Past issues can be found on the SOA website; as mentioned earlier, there is an article in this issue; and the last two articles in the series will be in the following two issues. The articles are full of good advice, so please take the time to read them.

At the 2010 SOA Annual Meeting, the SOA board of directors approved "Actuaries in Advanced Business Analytics" as part of the 2010 strategic plan. The board requested the answers to two questions: Are there significant opportunities for actuaries in business analytics? And, if so, what actions should be taken by the SOA?

The initiative had two components: explore and recommend. The former included environmental scanning, identification of skills needed, a gap analysis, and market research with members and employers to determine their interest and organizational readiness. The exploration determined there are significant opportunities for actuaries in advanced business analytics; thus, recommendations were developed for consideration by several areas of the SOA for implementation.

The SOA has plans to create a task force centered on creating opportunities for actuaries in the broader financial services arena. To date, the SOA has conducted studies that have provided some insight into the opportunities as well as the challenges that it would be faced with by an effort to expand into nontraditional markets. The task force would take the next step by creating a sustained effort to target specific markets and identify what would be needed for a successful entry into those markets and positions. The task force will complete its research and recommendations by year-end 2012. It will seek approval for the recommended broad course of action in 2013.

As you can see, the SOA is continually seeking ways to better serve and improve career opportunities for our members. If you have any suggestions for how we can continue this work, please visit "Contact Us" on *soa.org* and share your ideas.

— SOA Executive Director Greg Heidrich

THE ACTUARIAL PROFESSION IN THE NEWS

The SOA is focused on raising awareness of actuaries in the media. Recent efforts have been successful. Here are just a few examples:

Be Happy: Become An Actuary

Read about actuary being ranked one of the top jobs for 2012. For the full article, visit *www.efinancialnews.com*, search term Become An Actuary, or use the QR code.

An Age-Old Debate

The Wall Street Journal blog quotes Eric Stallard. To read the blog, visit *www.blogs.wsj.com*, search term Age-Old Debater, or use the QR code.

Planning For Retirement? Plan To Live To 100

MarketWatch quotes two actuaries about retirement planning. To read more, visit *www.marketwatch.com*, search term Robert Powell, or use the QR code.

St. Louis-Area Man, 100, Dies On Leap Day—His 25th Birthday

Actuaries discuss the probability of being born on a leap day. For the full article, visit *www.stltoday.com*, search term George Keller, or use the QR code.

Who Will Take Care Of Us In Our Old Age?

CBS MoneyWatch notes SOA work on provider shortages. To read the article, visit *www.cbsnews.com*, search term Who Will Take Care Of Us, or use the QR code.

Too Young For Life Insurance? The Debate Over Policies For Children

Jim Miles, FSA, talks to *Fox Business* about purchasing life insurance for children. For more information, visit *www.foxbusiness.com*, search term Too Young For Life Insurance, or use the QR code.

View all of these articles by going to *www.soa.org/newsroom* and clicking on the Profession In The News link.

ATTENTION READERS!

If you have an idea for an article you think should appear in *The Actuary*, or a response to something you have read in these pages, tell us about it by sending an email to *theactuary@soa.org*.

PROFESSIONAL DEVELOPMENT OPPORTUNITIES

47TH ACTUARIAL RESEARCH CONFERENCE (ARC)
Aug. 1 – 4
Winnipeg, Manitoba

VALUATION ACTUARY SYMPOSIUM
Sept. 10 – 11
Los Angeles, Calif.

CRITICAL ILLNESS INSURANCE FORUM
Sept. 10 – 12
Las Vegas, Nev.

DI & LTC INSURERS' FORUM
Sept. 12 – 14
Las Vegas, Nev.

PRODUCT TAX SEMINAR
Sept. 20 – 21
Washington, D.C.

ANNUAL MEETING & EXHIBIT
Oct. 14 – 17
Washington, D.C.

ASSET LIABILITY MANAGEMENT TECHNIQUES AND PRACTICES
Oct. 22 – 24
Chicago, IL

ASSET LIABILITY SEMINAR
Oct. 25 – 26
Chicago, IL

SOA ANNUAL SYMPOSIUM – SHANGHAI SOA
Nov. 5 – 6
Shanghai, China

View all Professional Development opportunities by visiting *www.soa.org* and clicking on Event Calendar.

Recommended Readings

The following is a list of recommended readings from the contributing editors that they feel will pique your interest and help keep you informed.

From Ruth Ann Woodley

This *New York Times Magazine* article is interesting on several levels, but for actuaries it provides a fascinating perspective on how other types of businesses use the data they have on their customers—a different kind of predictive modeling, if you will. Could this field be a potential opportunity for actuaries? To read the article, visit ***www.nytimes.com***, search term How Companies Learn Your Secrets, or use the QR code.

The Actuary