

# The Actuary

AUGUST/SEPTEMBER 2010  
VOLUME 7 ISSUE 4



**RESPONSIBLE  
HEALTH CARE  
REFORM**  
PART 4: FUNDING/FINANCING

**CHALLENGING  
THE HERD**

Developing a practical  
implementation strategy

**FROM FACT TO  
FICTION**

Interview with fiction  
writing actuary

**THE FULL SPECTRUM  
OF RISK ATTITUDE**

Is ERM siloed?

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# '10

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# UNTAPPED OPPORTUNITIES FOR HEALTH ACTUARIES

BY SUDHA SHENOY

I HAD MY OWN IDEAS as to what “untapped opportunities for health actuaries” might involve, but wished to learn what research had found. In May 2010, I listened to a webcast, supported by the SOA Board, about a market research study on the topic. The research study focused on understanding current actuarial roles, matching potential roles with actuarial skills, looking at future needs and exploring new roles. The study included a survey that gathered input from health industry executives, health plans, health management consultants, hospitals, health systems, and pharmaceutical and disease management companies.

The study found that there are many untapped opportunities in several segments of the industry for those it deemed “ridiculously intelligent” actuaries. There is a strong need for analytical and data expertise in clinical research settings as well as in wellness/disease management companies, health plans (analytics departments), health care management consultancies and pharmacy benefit management organizations. Highly valued business skills for these opportunities include strategic/“big picture” thinking,

communication (both written and oral), adaptability, in-depth clinical knowledge, familiarity with study design and knowledge of policy and regulations.

I delved further into the last three of these valuable skills, as I believe them to be technical barriers that actuaries must overcome in order to gain access to untapped opportunities. I discussed my thoughts with friends in the industry and would now like to share them with you. If I needed to gain technical knowledge, I would prefer to begin the learning process sooner than later, with the curriculum modified as necessary along the way. I would be extremely receptive to pilot projects conducted at local actuarial clubs, where members would have easy access to knowledge without incurring a lot of expense—perhaps through a partnership with local universities or through tailoring a seminar in order to receive continuing credit on these topics. This would be a good bridge-building technique with local medical schools and industry experts and would help to strengthen the actuarial brand in the health care arena. Such enterprises would also open the door to collab-

orative studies with academia, think tanks and other industry experts. There is great, untapped value for health actuaries in initiating dialogue with other health industry experts. Grappling jointly with tough issues would foster respect and mutual learning between academics, medical and health care professionals, industry experts and actuaries. Best practices would be shared and different approaches tested and modified as needed. I believe that this approach would be very energizing to all parties involved, serve as a catalyst for new learning, and prove more expedient than constructing a formal curriculum at the SOA level. Perhaps the SOA could provide guidelines around which these opportunities could be constructed.

Another way in which we actuaries could explore untapped opportunities would be to seek these opportunities ourselves by raising awareness about what we, as actuaries, bring to the table. I would like to share with you a personal experience from the last Super Bowl party at my house. When I entered the room where my guests were seated, I quickly realized that their ongoing debate centered on the recent



**Sudha Shenoy**

individual health premium increase that was making headlines. In my own home, amongst my own friends, I felt as if I were being cornered. My friends expressed much concern over the so-called “irrational increase.” I took that opportunity to explain to my friends how rates are set and reviewed as well as approved by the Department of Insurance (for certain health products). None of them realized that there was a logical process for rate filing, review and approval. I answered many questions on how we go about collecting the data from our prior experience and applying trend, etc. Following that discussion, many of my friends have come back to me with questions on other health care, as well as general risk management, issues that they face in their professions.

This made me aware of an opportunity for us to influence others and raise awareness about our profession. I think we miss out on opportunities because employers remain unaware of our analytical training and our unique ability to solve problems in many different and new contexts. Efforts are currently underway to understand the ramifications of health care reform and bending the cost curve. During the current health care debate, we ought to use every opportunity to educate the public. Volunteering at the SOA, the Academy or other organizations or work groups to learn more about these issues and then sharing our knowledge and expertise with the public is another way in which we can showcase our talents and abilities. The context is there; the dialogue is ongoing—

we just need to participate in and channel the discussions. I have no doubt that we “ridiculously intelligent” actuaries will find a way to gain the technical and business knowledge we need to help shape our futures and capture both current and untapped opportunities in the health care industry. **A**

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## Letter From The President

# SOA COMMUNICATIONS: EMPHASIS ON EMPLOYERS

BY MIKE MCLAUGHLIN

**2010 HAS BEEN A YEAR OF IMPROVING** how the SOA communicates with members. This has led to exciting new communication channels, better dialogue and some great ideas!

We have also extended this emphasis on communication to another important group—those who employ actuaries.

Employers are responsible to their customers, the public and, in many cases, shareholders, for the health and growth of their business. They are on the front lines when it comes to business and the economy, which is why employer perspectives are important to the work of the SOA. Establishing solid relationships with employers offers the SOA additional viewpoints in providing members with the tools needed to stay on the cutting-edge of actuarial science and risk management.

Let me tell you about a few of the ways we are working with employers.

### EMPLOYERS COUNCIL

The most visible way we are working with employers is through our Employers Council.

The Employers Council was established in 2009 to create a solid communications channel with the employer community, and offers the SOA perspective on business trends and challenges facing insurance, benefits consulting and broader financial services firms (the actuarial profession's current target markets). The Council meets three times annually—twice in person and once by conference call.

Council members are senior leaders at their respective entities, and include a combination of some of the largest actuarial employers, non-actuaries with expertise in financial services, enterprise risk management and executive/recruitment search.

The Council gives us information on hiring and staff development needs, preferences and practices. They provide insight on business needs for research and other forms of intellectual capital development in risk-related areas, as well as feedback on the market relevance of various products and services the SOA offers.

In 2009, (the year the Employers Council was established) the meetings were largely focused on bringing employers up to speed

on the work of the SOA. After a year of discovery and engagement, council members have told us that they want to do more.

One of the goals the Council has set for itself is to get to the heart of the SOA's vision (for actuaries to be the leading professionals in the measurement and management of risk) to establish a true understanding of the risk management field and the needs of key thought leaders in risk management. To help achieve this goal, the Council has undertaken a project to better understand employers' labor needs in an evolving business climate. This includes current and future talent needs of firms, trends in professional development and possible risks to the talent pool, and will be an important step in developing the profession's strategy in the years to come.

The SOA Board and staff are very grateful to the members of the Employers Council who volunteer a few days of their time per year to benefit our profession. We are fortunate to have such an enthusiastic, involved team with which to share an ongoing dialogue. The most recent meeting (held in June) was the best ever, in my

opinion! The members of the Employers Council are lively, very engaged and through a number of dynamic discussions have given us a lot to think about!

## EMPLOYER COMMUNITY VISITS

As an extension of the Employers Council, the SOA also conducts employer community visits as part of our outreach to employers. On these visits, we learn about the employer's core business, challenges they may be facing, and their needs for talent and professional development.

These visits also create the opportunity for us to hear not just from senior leaders (who may be either actuaries and non-actuaries), but also teams of employees and even candidates—it's a broad spectrum of people that make up an enterprise, and we want to ensure that we hear a variety of perspectives.

There is no substitute for face-to-face conversations, and these visits go a long way toward building rapport with employers.

## IMPROVING PRODUCTS AND SERVICES

The feedback that we have received from employers helps us develop products and services (for example, Continuing Professional Development (CPD) offerings) that help prepare, and even give members an edge, in the job market. Both members and employers have asked for CPD in a variety of formats to help meet budget requirements and time restrictions.

In addition, we are using employer feedback to develop new CPD offerings—one example could be partnering with others to develop a leadership training program.

## VOLUNTEERISM BENEFITS MEMBERS AND EMPLOYERS

As a member-driven organization, volunteers drive the work of the SOA, which is why it is an important topic to discuss with employers. Those of you who volunteer know that it helps you build new skills, make new contacts and can help you stay up to date in technical areas, differentiating you from others.

## The work we do with employers is really about creating more opportunities for actuaries. ...

These skills not only benefit you, but these are skills that you take back and can use at the office or in the field on daily basis, which benefits your employer as well! With the contacts you make through volunteering, you may be able to gain new clients and even get on the phone with a competitor!

Volunteers make our profession stronger, and the strength of the profession is important to the viability of the firms that we work for.

## FUTURE EMPLOYERS OF ACTUARIES

The work we do with employers is really about creating more opportunities for actuaries, and for those in our profession, our horizons are expanding. We can take cues from other countries—for example, in Australia and South Africa, actuaries are working for banks and asset managers, with financial product pricing and management. We should also look at how we can apply actuarial skills to solve problems in other areas such as manufacturing, technology and transportation.

In addition, technology products require sophisticated pricing and management techniques. If we can demonstrate the value of our skills, employers will require a greater supply of actuaries to fill those roles. If we are successful in this, job opportunities for actuaries will expand



Mike McLaughlin

greatly, and the profession will provide more valuable service to the community. There's work to be done to get there, but the prize makes it worthwhile.

## CONCLUSION

As members of the SOA, we all benefit from the conversations and resulting ideas we gain from employers. The effect is circular—employers' feedback allows us to develop products and services that benefit members, strengthening the profession as a whole, boosting the public's knowledge of actuaries, and increasing demand for actuarial services. It's an exciting time to be an actuary! 

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Mike McLaughlin, FSA, CERA, MAAA, FIA, is president of the SOA. He can be contacted at [mmclaughlin@soa.org](mailto:mmclaughlin@soa.org).

Letter To The Editor

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## LESS THAN IDEAL

### EDITOR OF THE ACTUARY,

I would like to address a statement made in the captioned article “Responsible Health Care Reform Part 2: Access to Care,” found in the April/May 2010 issue of *The Actuary*.

The article states that “Because of HIPAA, any person who is covered for at least 18 months under a group or individual health care plan **has a right to maintain continuous coverage without ever again being required to undergo assessment of health status (underwriting)** or facing new limit on pre-existing conditions.” **(emphasis added)**

It is my understanding that HIPAA and most (but not all) states do not prohibit health insurers from requiring health status assessments (underwriting) for all individual and small group health insurance applicants—even individuals and small groups applying for alternative health care policies from their current insurer. While the 18 months provision will provide guarantee issue rights, there is no protection against a health insurer’s requirement that individuals submit to health status assessments for the purpose of rate setting and for substantial policy exclusions with respect to individual health insurance plans. It has been my premise and contention that precisely because of this lack of underwriting protection, the health insurance industry has been successfully (justifiably?) vilified and our already overly debt-laden government passed health care reform that further expands government intrusion, threatens the insurance industry itself, and imposes requirements that further threaten our nation’s financial condition. If the health insurance industry would have proactively addressed this substantial defect in insurance protection, we

would have likely avoided what I believe is a financially catastrophic reform in access to health insurance that is now the law of the land. Thank you for the opportunity to comment (vent?).

Best Regards,

**Jim Galasso, FSA, MAAA, CERA, President & Consulting Actuary**

Actuarial Modeling, [jgalasso@actmod.com](mailto:jgalasso@actmod.com)

### REPLY FROM AUTHORS OF THE ARTICLE:

The statement in the article is accurate, but as Mr. Galasso points out, there is no doubt that the current situation is less than ideal. The way the right can be exercised varies by state from the extreme of being guarantee issue by any carrier writing individual health insurance in the state, to only accessing the state high risk pool as the insurer of last resort. The individual can purchase insurance without a new pre-ex and without exclusionary waivers through the appropriate mechanism in his/her state, but, as stated in the article, coverage may well be unaffordable. A useful guide to understanding the options by state can be found at: <http://www.healthinsuranceinfo.net/>.

Our article was written prior to passage of PPACA. PPACA will change the rules significantly, certainly beginning in 2014 when guarantee issue becomes the law of the land. In the short run, funds allocated under PPACA to support high risk pools will also provide another option to some people seeking to purchase insurance.

**Barbara Niehus, FSA , MAAA, President,**

Niehus Actuarial Services, Inc., [bn@niehusactuary.com](mailto:bn@niehusactuary.com). 



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# Challenging The Herd

BY MAX J. RUDOLPH

**WHEN DEVELOPING** a practical implementation strategy around emerging risks, it is necessary to avoid a herd mentality.

**H**ow does a profession that prides itself on the ability to discount contingent events treat those risks when there is no data? Too often modelers explain the intricacies of their solutions without the companion shortcomings being described, whether developing economic capital models, valuing a pension plan, or pricing a new product or investment. Unfortunately, users of this information don't want to hear it. The vast majority want a single number, whether it is senior management, regulators, rating agencies or investors. The result? They get what they ask for. The modeler who does not provide this information, or who insists on adding the appropriate caveats and the complete distribution of results, will soon be looking for "new opportunities."

## WHAT ARE EMERGING RISKS?

So what is a risk manager to do? We know that new risks will appear suddenly, that long for-

gotten risks often repeat, and that even those risks where historical data exists will evolve over time.

When an earthquake occurs in a known area of seismic activity, there is data available going back hundreds, if not thousands, of years. Casualty actuaries have a pretty good idea of expected magnitudes well into the tail of these risk distributions. But sometimes fault lines lie inactive for centuries and we don't look in the right places for the data. The earthquake early in 2010 that created such a challenge in Haiti is an example of this. It was not predicted, and little preparation had occurred.

Ever since humans domesticated animals, viruses have jumped between species. A serious influenza pandemic has occurred in the past 100 years yet is not included in base mortality tables. While the impact is debatable by

reasonable experts, it remains that companies and regulators must incorporate this risk themselves. Less sophisticated/conservative (you choose) competitors ignore this risk, forcing the market to price life insurance as if this risk was not present. Other life threatening diseases will evolve. Genetically modified food or cell phones might have unintended consequences. How can anyone predict what these risks are going to be? How does the risk manager avoid being compared to the boy who cried wolf? Too many false warnings will dissipate credibility.

## RISK SILOS AND UNKNOWN UNKNOWN

Another shortcoming of standard risk management practice that exploded into our consciousness during the recent financial crisis was the interaction between risks in the tail of a distribution. When times are good it is said

that the rising tide floats all boats. When times are bad, correlations are much higher than anticipated by historical data. Emerging risks act similarly in that something new might interact with something old in an unexpected way. Much was made of Donald Rumsfeld's 2002 "Unknown Unknowns" speech as Secretary of Defense, but he was talking about various forms of emerging risks. Sometimes historical data provides complete information, some-

## ... IT APPEARS THAT **RISK MANAGERS SUFFER FROM THE SAME ANCHORING EFFECTS THAT BEHAVIORAL FINANCE EXPERTS DESCRIBE FOR INVESTORS.**

times we know a risk exists but don't have a good appreciation for its risk distribution, and sometimes a risk is completely unknown and ignored. When management is aware that not all events are included in historical data sets, especially those going back less than a century, a company gains a competitive advantage and improves decision-making ability.

It is not always clear what category a risk falls into (known knowns, known unknowns, unknown unknowns). For example, as oil drilling moved into deeper and deeper waters, should someone have examined the environmental risk of a catastrophic oil leak? Was this a known unknown? Many think so today, after such an event occurred. This example describes a Black Swan event, the term developed by Nassim Taleb in his book of the same name where a risk is not considered prior to its occurrence but is recognized by all after the fact.

Many risks are modeled in silos, ignoring interactions with other risks. A correlation matrix attempts to combine these results into that single, magical number that stakeholders desire.

This number is always calculated to several more significant digits than can be justified by the accuracy of the input assumptions. This is not to say that generating this information is not useful. It is, but the process to develop a model where the risk owners build assumptions that produce a range of reasonable results, surrounded by a story that describes how an entity will react to both good and bad scenarios, is much more useful.

Much of the historical financial data used focuses on a recent period of time, and rolls forward with each new period. For example, the most recent 500 trading days or 10 years of experience is used. If an outlier has not occurred during this data set collection period, then calculated economic capital is too low and entity value is too high. If an outlier has occurred during that period, it will dominate, and the opposite happens. Using unadjusted recent data is procyclical, resulting in capital calculations moving higher when times are bad. This increases the systemic risk at a time when capital should be providing a buffer against that type of risk. Preference would be to have a process that is mean reverting, where excess capital is released during bad times and built up during good times.

### **SURVEY AND ANCHORING**

The SOA recently conducted its third Risk Manager Survey of Emerging Risks, where risk managers were asked to choose up to five emerging risks with the greatest impact from 22 developed by the World Economic Forum ([www.weforum.org](http://www.weforum.org)). Not surprisingly, economic risks have dominated the survey

during the recent financial crisis. What was not expected was the variation between surveys. It appears that risk managers suffer from the same anchoring effects that behavioral finance experts describe for investors. When the price of oil spiked, that was the top emerging risk. When the survey was completed right after a large drop in the equity markets, that became the top "emerging" risk. Most recently, after the world's financial system was forced with government-driven liquidity, deficits became the top choice. These results are human nature and not something to condemn but rather something of which to be aware. The risk managers who know they suffer from a focus on the recent past can better see a longer-term risk horizon. This improves decision making, and can be done with minimal investment.

### **CONCLUSION**

Developing a practical implementation strategy around emerging risks is a challenge due to the short-term nature of financial markets and human nature. A culture that embraces long-term strategic planning and challenges the herd mentality so pervasive on Wall Street will empower a firm to make better decisions. **A**

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## Volunteer Management Program

# VOLUNTEERS ARE LIKE COFFEE TO THE SOA

BY SHEREE BAKER

**MANY PEOPLE RUN ON COFFEE**, but the Society of Actuaries runs on volunteers. Volunteering has become part of the fabric of many people's lives, and the ideas, knowledge and expertise needed to keep the SOA moving forward would be impossible without the involvement of our members.

Recognizing how important volunteers are to the success of the organization, the strategic leadership of the SOA has made the development of a comprehensive volunteer management program one of its 10 Strategic Initiatives. The Leadership Development Program (LDP) began in 2008 as a three-year initiative to develop and implement an all-encompassing volunteer program that would identify, recruit, track, manage and recognize volunteers. The Leadership Development Committee (LDC), a Board committee chaired by Martine Sohler, has the responsibility for the development of this program. Other members of the Leadership Development Committee are Jim Toole, vice chair; Christopher Fievoli, Philip Gold, James Miles, John Nigh and Kevin Pledge. In addition, the SOA has a full-time staff member dedicated to the program.

Some of the main goals of the LDP are to recruit new volunteers, provide skill-building opportunities for those entering into the volunteer process, and develop new leaders.

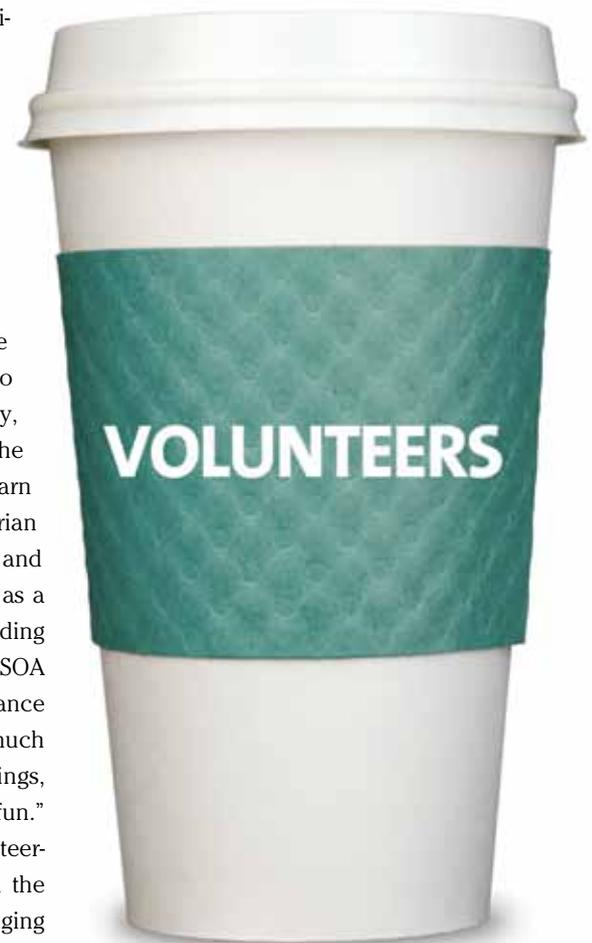
We also hope that implementing this new program will minimize burn-out of our most active volunteers.

In order to better understand what motivates our volunteers, the program seeks not only to clearly define the types of opportunities available, but to identify what the member hopes to gain from the volunteer experience. The SOA's goal is to provide a consistent and rewarding experience for its volunteers.

### WHY DO ACTUARIES VOLUNTEER?

Some of the reasons may surprise you. Conversations with our members indicate that many volunteer because they want to give something back to the profession. Nadeem Chowdhury, USAA, volunteers "to keep up with the industry, network with peers and learn new skills." Suzette Huovinen, Securian Financial Group, echoes those thoughts and adds that, after completing her exams as a candidate, she "was interested in finding out what exams looked like from the SOA side." Errol Cramer, Allstate Life Insurance Company, says that he gets back much more than he invests—"new learnings, friendships, networking and mostly fun." Sue Sames, Towers Watson, says "volunteering creates a feedback loop (for both the volunteer and the SOA) that keeps bringing

volunteers back ... often in different areas." Volunteering for the SOA offers the opportunity to develop skills such as leadership, communication, time management, negotiation and management of a virtual team. It's a safe place to learn and practice these skills



CONTINUED ON PAGE 43

# FUNDING/FINANCING

## SCOPE

- 1 2008 NHE = \$2.3 trillion**
  - \$1.1 trillion from public funds
- 2 9.7% Growth Rate Since 1960**
- 3 2019 Projected NHE = \$4.5 trillion**
  - Public spending to grow 7.0% /year
  - Private spending to grow 5.2% /year

## FINANCING CONSIDERATIONS

- 1 Public Health**
- 2 Preventive Health / Wellness**
- 3 Orphan Diseases**
- 4 Experimental & Unproven Treatments**
- 5 Care Outside the US**
- 6 Long-Term Care**
- 7 Epidemics**
- 8 End-of-Life**

## FUNDING PATHWAYS

- 1 Federal Government**
- 2 State & Local Governments**
- 3 Employers**
- 4 Individuals**
- 5 Insurance Companies**
- 6 Health Care Providers, Manufacturers & Pharmaceutical Companies**
- 7 Charities**



# Responsible HEALTH CARE REFORM

## PART 4: FUNDING/FINANCING

BY MAC MCCARTHY, BARBARA NIEHUS AND JAY RIPPS

This is the **FINAL ARTICLE** in a four-part series about what actuaries see as ideal components of a health care reform package.

**P**art 1 (February/March issue) provided preliminary thoughts and concluded that while we have not arrived at a consensus as to one best way to reform our health care system, actuaries have the tools and perspective to make a positive difference in the reform process. Part 2 (April/May) discussed various issues revolving around access to health insurance and access to health services—one key take-away was that simply providing access to insurance will not assure that everyone has access to the level of health care appropriate to their needs. Part 3 (June/July) explored potential approaches to rein in

cost trends and enhance health care efficiency. Many of these have been tried already, so it is important that we keep practices that work, reject those that have failed, and continue to pilot new innovations.

So finally, we've come to funding—who is going to pay for this? Of course, there is no such thing as a free lunch, so one way or another the American people will foot the bill through higher taxes, costlier goods and services, lower wage increases, and/or sacrifices of one form or another. The issue really comes down to how will the money necessary to achieve our

health care goals be channeled—what path will the funds take, starting with collection on through to final distribution? This article will attempt to present the approaches gleaned from our actuarial colleagues, identifying alternative funding pathways and discussing the advantages, disadvantages and possible consequences of each.

We have looked at health care spending based on both the entity making payments and the category of health care in which the money is spent. In either of these analyses, considerations such as portability, equity, ac-

cess, efficiency, need for innovation, personal control over health care decisions, personal responsibility, social priorities, etc. take on different weightings. These considerations will be discussed, particularly as they indicate different, possibly conflicting, pathways.

Since the time we started this dialogue with actuaries on health reform, the state of health care reform legislation has changed considerably. Back in November 2009, many were expecting that this latest effort would go the route of previous attempts and never see the light of day. While we were writing the Access piece, legislation looked more likely, but there were many setbacks and opinions about passage swung back and forth, even amongst (especially for?) actuaries with good connections in Washington. By the time we put the Cost article together, the Patient Protection and Affordable Care Act (PPACA) (with an accompanying reconciliation bill) was the law of the land. Despite being a long and robust piece of legislation, there are many questions to be

resolved. We are beginning to see the regulations put forth that will hopefully provide the answers needed by carriers, employers and individuals. Reform is not a single event, but rather a long process which likely will never truly end. Much of what happens from this point on will result from regulation and adaptations driven by reactions from various constituencies (providers, employers, insurance companies, states and individuals).

Throughout this process, we have tried to remain objective and highlight things that health care actuaries feel would work, regardless of whether or not they were in the proposals/legislation. We will keep to this principle; however, given the complexity of the topic and to keep the issues in context, we will start with the world as it existed pre-PPACA, acknowledging some of the changes/concepts introduced by this legislation.

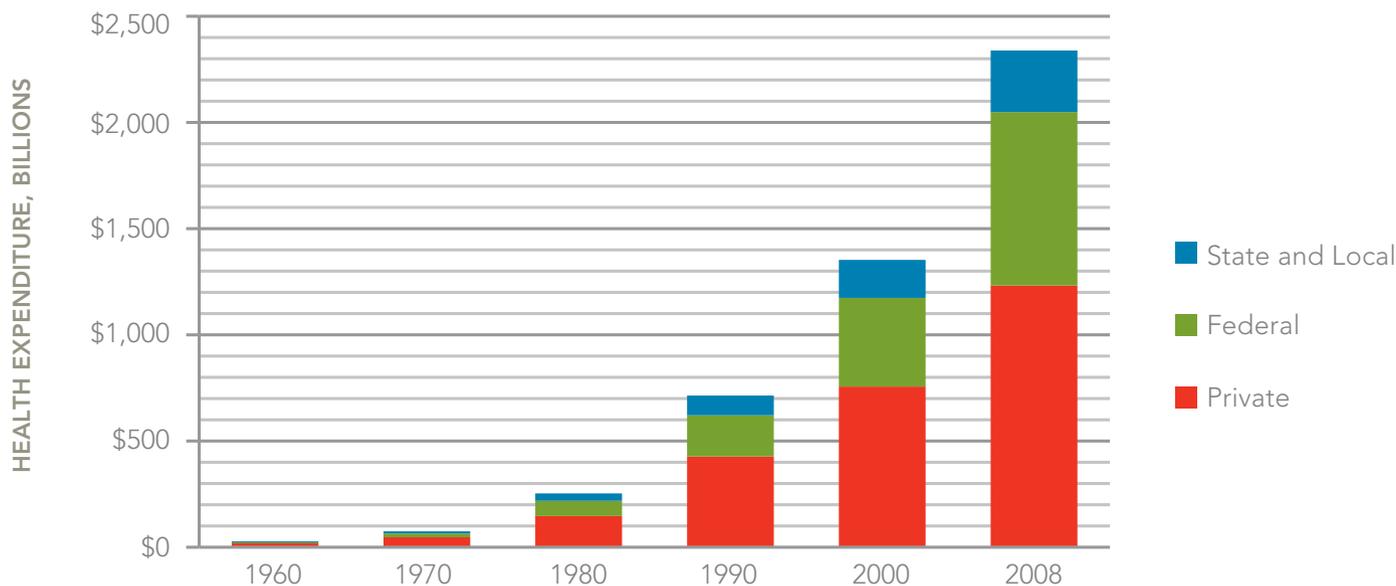
Besides the 2009 Tucson Conference of Consulting Actuaries (CCA) meeting, input for

this article came from two Healthcare Reform Taskforce calls, plus comments from a number of actuaries via e-mail and several one-on-one phone conversations. We are grateful to all who offered opinions. Note that we have attempted to present multiple perspectives, regardless of our personal opinions. However, if any bias or preferences are perceived in this article, they are reflective solely of the authors' views and not a position or consensus of the CCA, the Taskforce, nor the authors' employers.

### SCOPE OF THE ISSUE

According to the most recent National Health Expenditures (NHE) reports from the Centers for Medicare & Medicaid Services (CMS), the total U.S. health expenditures for 2008 were \$2.3 trillion, split roughly half and half between public and private sources. Since 1960, the average annual increase for total expenditures has been 9.7 percent and rates of increase for public spending have been significantly greater than those for private in every decade since, except for the 1980s. As a result, public spending has

**Table 1: National Health Expenditures, 1960–2008**



The National Health Expenditure Accounts (NHEA) are the official estimates of total health care spending in the United States, measuring annual U.S. expenditures for health care goods and services, public health activities, program administration, the net cost of private insurance, and research and other investment related to health care. Source: <http://www.4.cms.gov/NationalHealthExpendData/downloads/tables.pdf>

**Table 2: 2008 National Health Expenditure Allocation**

grown from 25 percent of the total in 1960 to 47 percent in 2008, as can be seen in Table 1 on page 18.

Of the \$1.1 trillion of 2008 public health expenditures, the largest portion (\$469 billion) was for Medicare, followed closely by Medicaid (federal and state combined of \$344 billion). Table 2 provides additional details of the allocation of both public and private dollars.

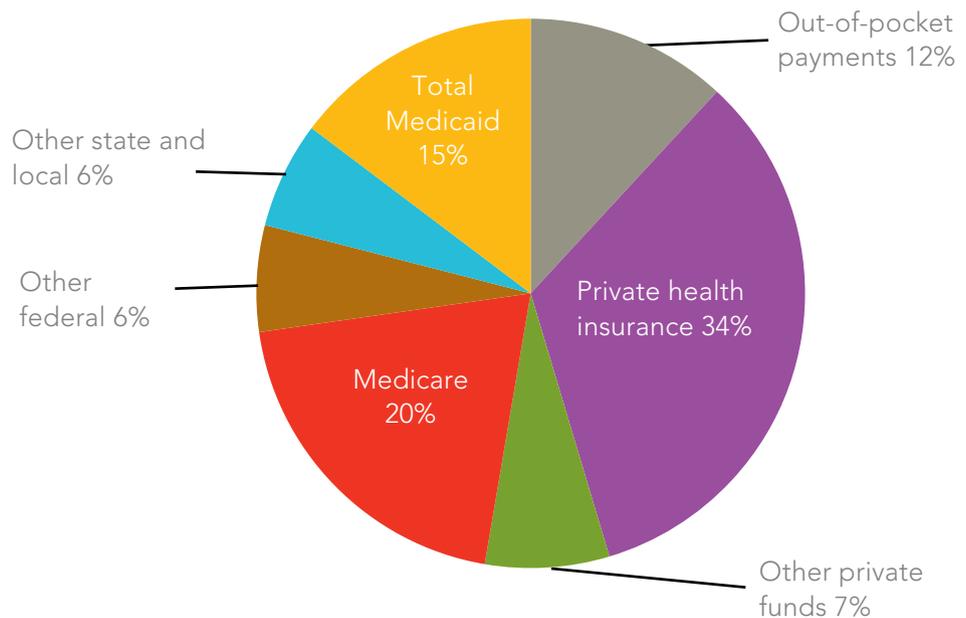
Health care reforms will affect health expenditure levels and the allocation between government, employers, insurers and individuals. However, the most significant factors pushing health costs up will continue to be demographics, medical advances and inflation. Currently, CMS is projecting total health care costs increasing to \$4.5 trillion by 2019, with an average increase of 7.0 percent per year for public spending, versus a private expenditure growth rate of 5.2 percent over that period.

**POTENTIAL PATHWAYS OF FUNDS**

This section looks at various pathways that a dollar can find its way into health care financing, looking at advantages, disadvantages and consequences of each.

**Federal Government**

In 2008, the federal government’s expenditures for health care were nearly \$817 billion.<sup>1</sup> About \$469 billion of that was through Medicare, and another \$208 billion was Medicaid and SCHIP (funding state programs). Defense and the Veterans Administration (VA) amounted to about \$44 billion. About \$10 billion was spent on public health activity.



The National Health Expenditure Accounts (NHEA) are the official estimates of total health care spending in the United States, measuring annual U.S. expenditures for health care goods and services, public health activities, program administration, the net cost of private insurance, and research and other investment related to health care. Source: <http://www.4.cms.gov/NationalHealthExpendData/downloads/tables.pdf>

Funds to support these expenditures come from several sources. Dedicated funding for Medicare expenditures comes primarily through a payroll tax shared by employees and employers. However, this funding needs significant supplementation from general revenues. In 2008, general revenues accounted for 38 percent of total Medicare funding. The 2009 Trustees report<sup>2</sup> triggered a “Medicare funding warning” indicating that general revenues were projected to be 45 percent of total funding by 2014. The report also indicated that the Hospital Insurance (Part A) Trust Fund was projected to be depleted by 2017. The 2010 report has been delayed in order to assess the impact of PPACA and was not available at the time of writing this article.

Funding for other federal government health expenditures comes primarily through general revenues and deficit funding. Note that in FY2010, the federal budget deficit has been projected to be about \$1.4 trillion.<sup>3</sup>

Giving the federal government control of the purse strings has advantages. The federal government can define and implement social priorities/policies that would otherwise be inconsistent with how the private insurance market works. Without some level of government participation, segments of the population are unable to afford access to health care. It can redistribute resources by using tax revenues to pay for health care to, or subsidize health insurance premiums for, low income individuals. It can unilaterally set provider fees, a control of health

**FOOTNOTES:**

<sup>1</sup> US National Health Expenditures as reported at <http://www4.cms.gov/NationalHealthExpendData/>

**FOOTNOTES:**

<sup>2</sup> 2009 annual report of the boards of trustees of the federal hospital insurance and federal supplementary medical insurance trust funds

**FOOTNOTES:**

<sup>3</sup> According to the Congressional Budget Office’s March 2010 Baseline (<http://www.cbo.gov/ftpdocs/112xx/doc11231/budgetprojections.xls>)

care costs that is not available to the private market. And it can establish mandates and appropriate penalties that apply to employers, individuals or other entities. Moreover, coverage provided through the federal government is portable throughout the country.

On the other hand, it can create a sense of entitlement that applies pressure for increasing benefits and resists attempts to rein in costs through limiting payouts. The federal government is the only entity that can print money and finance costs through increasing the national debt. This has resulted in expanding programs that have been chronically underfunded. Also, a large federal program is often difficult to change, which can stifle innovation. Moreover, there is no direct consumer accountability for good or bad health care purchasing decisions, and Medicare has been slow to implement programs that control fraud and abuse.

One unintended consequence of federal programs is the impact on private market pricing of health care services. As the government has

taken steps to slow down the growth in Medicare spending, providers have looked to make up those “losses” by increasing fees to private patients. This cost-shifting has fueled increasing costs for private patients, which then is reflected in higher private insurance premiums.

Another unintended consequence is the burden that can be placed on states through mandates. Medicaid is funded jointly through state and federal funds. However, there have been many instances where the federal government has reduced the funds it makes available to help finance these state programs, while at the same time requiring more and more expansions of coverage. Medicaid has become an increasing burden on state budgets.

#### State and Local Governments

State and local governments’ share of health care expenditures in 2008 was about \$290 billion. About one-half of that amount was spent for Medicaid and SCHIP programs. Recently, states have been particularly dependent on supplemental federal funding provided under the American Recovery and

Reinvestment Act (ARRA), which is scheduled to expire on Dec. 31, 2010. Most state and local governments are currently dealing with substantial budget deficits and are cutting back in many areas.

Aside from earmarked federal funds, state and local governments usually rely on general revenues to fund health care expenditures. And states do not have the same latitude of deficit spending that the federal government is able to use, since they must balance their budgets.

Except for the flexibility stemming from the ability to print money, state governments bring along most of the advantages discussed above for the federal government. The states are also more likely to be aware of local issues and have the ability to reflect the local needs and conditions more effectively than a national approach could. Another advantage from a policy perspective is the diversity of the states. They can experiment with different approaches on a smaller scale, and the nation can learn from these experiments—identifying successful programs that can be shared and implemented more broadly, as well as programs that don’t work.

Most of the disadvantages associated with state government funding also parallel those listed above for the federal government. However, the pressure associated with having to balance budgets can, in some instances, mitigate some of these disadvantages.

Unintended consequences include the cost-shifting to the private market as discussed above. Both Medicare and Medicaid contribute to this effect. In some cases Medicaid reimbursements are low enough that many providers will refuse to treat Medicaid patients, creating different types of burdens on the health care system.



## Employers

Employers fund the system in a variety of ways. The most significant source of funding is through providing group health programs to employees and dependents. In 2007, about 60 percent of the non-elderly population (under 65) was covered through a group plan.<sup>4</sup> However, this percentage has been dropping over time as insurance becomes more expensive. The average value of employer paid health insurance ranges from 7.3 percent (private) to 11.2 percent (government) of an employee's total compensation.<sup>5</sup> This pathway is well-established, and most people who have group health insurance are extremely or very satisfied with the quality of health care they receive.<sup>6</sup>

Employers also pay a share of payroll taxes (1.45 percent) for Medicare as well as income taxes at both the federal and state/local level. They also pay other taxes that vary by state, such as sales tax.

To the extent that employers bear the cost of providing health care, they have an incentive to control costs, promote efficiencies, promote employee wellness, and find innovative ways to structure plans. Moreover, many employers pay most of the cost of the insurance, which leads to high participation rates, resulting in broad coverage. But the employer pathway works less well for dependents than for employees, in part because employers generally do not fund dependent coverage as generously as they fund employee coverage.

Employers can hire or engage health benefit experts to assist them in purchasing decisions, so that employers can be more sophisticated health insurance purchasers than individuals. Sophisticated buyers foster a competitive, innovative health insurance market.

However, coverage through employer plans has historically created portability and "job-lock" issues. A change in jobs may require a change in insurers and/or health care providers. Loss of

## EMPLOYERS FUND THE SYSTEM IN A VARIETY OF WAYS. THE MOST SIGNIFICANT ... IS THROUGH PROVIDING GROUP HEALTH PROGRAMS.

employment may result in a disruption of coverage. Employees may be "locked into" their jobs because of their need for health insurance and difficulty in obtaining it if they leave their jobs. Job-lock can cause economic inefficiencies.

Moreover, the international competitive position of U.S. employers may be weakened by the high and rapidly growing costs of group health insurance. This in turn can depress wages and other benefits, as well as profits. And as employers seek to save dollars, more and more costs may be shifted to participants.

Finally, as with government pathways, employees and their dependents are shielded from the direct economic consequences of their health care purchasing and lifestyle decisions.

## Individuals

Individuals fund the system through a variety of taxes as well as premium payments and out-of-pocket payments. Even a person who is uninsured is typically paying something toward the cost of medical care. For example, if the person is employed, then funding is done through payroll taxes. Income taxes go to general revenues,

which are used by federal or state governments to help fund health care costs, and state sales taxes can be part of general revenues used by a state to fund Medicaid.

This pathway allows employees and their dependents to purchase insurance that best suits their individual circumstances. Therefore, it promotes innovations that benefit the individual buyer, rather than an employer or government buyer, and it gives individu-

als more control over their health insurance costs and purchasing decisions. And individually purchased insurance is fully portable and independent of employment/employer.

When individuals are responsible for paying out-of-pocket, they have incentives to be smart consumers. Given the right information, some will pay attention to prices and also give consideration as to which services they think are worth buying versus those that are not. However, individuals typically cannot budget for catastrophic expenses, and clearly need insurance for financial protection.

Individually purchased insurance best reflects individual risk characteristics and is, in that sense, more equitable than group insurance. For example, in group insurance, the younger employees subsidize the older employees, since employee contribution rates generally do not vary by age.

Some contend that health insurance is too complicated and too hard to understand for individuals to make rational purchasing decisions. They contend that experts available

### FOOTNOTES:

<sup>4</sup> Statistical Abstract, 2010, Table 149; <http://www.census.gov/compendia/statab/2010/tables/10s0149.pdf>

<sup>5</sup> <http://www.bls.gov/news.release/ecec.nr0.htm>

<sup>6</sup> EBRI Issue Brief No. 323, Nov. 2008; [http://www.ebri.org/pdf/briefspdf/EBRI\\_IB\\_11-20081.pdf](http://www.ebri.org/pdf/briefspdf/EBRI_IB_11-20081.pdf)

through an intermediary like an employer or government agency need to be in the purchasing decision process to protect individual purchasers from making poor decisions.

Also, individual purchasers have little bargaining power with health insurance companies; therefore, some contend they cannot effectively exert pressure to keep costs down.

## IN 2008 CONSUMERS PAID ABOUT \$259 BILLION IN HEALTH INSURANCE PREMIUMS.

Individual insurance, like group insurance, shields consumers from the direct economic consequences of their health care purchasing and lifestyle decisions. Some contend that more reliance on the individual purchase pathway would increase the upward pressure on health care costs, as individuals seek to “get their money’s worth” from what they spend on individually purchased insurance.

In the case of individually purchased insurance, health care reforms must be carefully designed to avoid additional unintended consequences. Individual mandates that allow a person to move in and out of coverage when medical care is needed will create an unworkable system. The resulting anti-selection can cause health insurance premiums to increase significantly. Those individuals who are not wealthy, but whose income puts them above the level to qualify for government subsidies, may find coverage unaffordable.

### Insurance Companies

In 2008 consumers paid about \$259 billion in health insurance premiums.<sup>7</sup> Although the largest employers are likely to self-fund medical plans, insurance companies insure benefits for individuals and for people covered under group medical plans offered by

smaller employers. Insurance companies also offer Medicare Supplement and Medicare Advantage plans. There has been a tendency toward more regulation of rates in the small group and individual markets in recent years. Insurance companies are generally subject to income taxes, and health insurance premiums are subject to premium taxes in most states.

Insurance companies deal in a competitive marketplace and have incentives to both control medical costs and run their businesses efficiently, including fraud and abuse controls. They also have incentives to offer innovative products.

Insurers are also required to hold adequate surplus to assure solvency and, in many cases, make profits to assure investors a reasonable rate of return. As a result, as with any ongoing business, they must include profit margins in their pricing. Many insurers’ efforts to control costs (such as questioning the need for certain medical care) are viewed negatively by consumers. Insured premiums reflect underlying claim costs, resulting in regular increases, which have been a cause for concern.

Part of the cost passed along to consumers in insurance premiums is the cost of premium tax. These taxes have been assessed by states for many years and avoidance of those taxes has been one of the motivations for large employers to move to self-funding. In light of the

new federal taxes on insurers under PPACA, it is likely that more movement will be seen toward self-insurance, leaving the burden for those insurance company taxes disproportionately born by small employers and individuals.

Insurance company prices historically have been set to reflect the underlying cost of the risk. In many cases, this may be seen as inconsistent with social objectives. For example, actual medical costs vary widely among different demographic groups. Because of costs related to child-bearing, women in their 20s or 30s are expected to incur greater medical costs than men of the same age. Similarly, people are generally expected to incur greater costs as they age. To the extent that laws prohibit gender rating or establish limited age-rate bands, this creates cross-subsidies among individuals. This also creates the potential for further anti-selection—if younger people opt out, the average rate for the remaining insured population will increase. These types of requirements can have a very material effect on expected claim costs for an insurer’s block of business.

To the extent that insurers are unable to price products at actuarially sound rates, several unintended consequences can occur. Carriers may either need to exit certain markets or may face possible insolvency. Adequate rating concerns may also prove to be a barrier to entry for new players and will deter entities that are willing to invest in starting or building insurance companies.

### Health Care Providers

Health care providers can be a source of funding, either directly through special taxes on some providers, or indirectly by setting uniform fee schedules that are less than negotiated “market rates.” It is questionable whether direct taxes on providers can be a viable long-term funding

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#### FOOTNOTES:

<sup>7</sup> U.S. National Health Expenditures as reported at <http://www4.cms.gov/NationalHealthExpendData/>

source, since these taxes may be reflected in providers' charges for health care services, resulting in no net revenue to the health care system.

**Medical Manufacturers and Pharmaceutical Companies**

Many medical manufacturers and pharmaceutical companies participate in a global marketplace where the United States is a significant market but not the only market. Much of the innovation in these areas has occurred in the United States and has been funded through health care costs—adding to an already expensive system. The federal government could establish new rules that would impact the pricing of their products in the United States, lowering the prices and therefore creating health care cost savings.

Alternatively, additional taxes could be assessed that would be used to help pay for health care costs, but ultimately add to the cost of the products. Under either approach, a consequence can be that fewer resources would be allocated to innovation through funding of research.

**Charitable Organizations**

Charitable organizations have been important sources of funding for research and patient support efforts. These organizations play a role that neither the government nor the private sector can effectively address, since they are able to focus resources that reflect the priorities of those who give money to the charities.

**FINANCING CONSIDERATIONS BY CATEGORY OF HEALTH CARE**

The advantages and disadvantages of alternative funding pathways may be differentiated by category of health care. Not all health care costs are necessarily well-suited to the same

funding pathway. Considerations regarding funding pathway by category of health care are discussed in this section.

**Public Health Care**

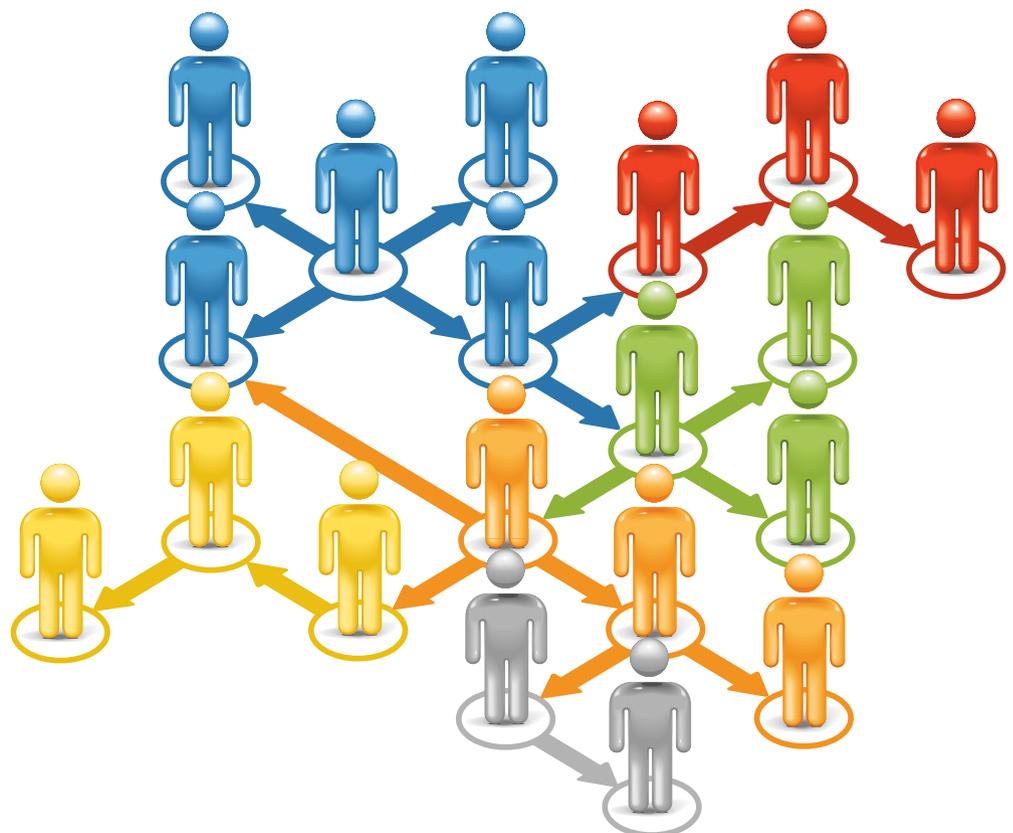
In this category we include health care programs that are primarily preventive rather than curative, and that deal with population-level rather than individual health issues—such as programs to provide clean air and water, proper disposal of waste, control of infectious diseases, etc. It is broadly accepted that the funding pathways for these programs must be primarily federal, state and local governments, with some marginal but important funding through charitable organizations.

**Preventive Health/Wellness**

Some preventive health programs and costs fall into the category of public health and

are generally funded through governments. Others are included in health insurance programs. In fact, the recently enacted health care reform laws require full coverage of certain preventive services with no cost-sharing by the individual patient. There are several points of contention regarding the coverage of preventive costs in health insurance.

- Some contend that full coverage of such costs results in greater adherence to preventive protocols than if they are not fully covered by insurance. Others contend that the primary barriers to obtaining preventive services are not tied to their costs—many of which are relatively inexpensive—but rather to lack of knowledge or motivation.
- There is also a concern that coverage of preventive services through insur-



ance is inefficient, since such services are frequent, low-cost, predictable and budgetable. Generally, the kinds of costs appropriately covered by insurance are those which are infrequent, high and unpredictable. Covering preventive health care costs through insurance results in additional and unnecessary administrative expense, which could be avoided if these services were provided at no direct

starting in 2014. Because insurance does not cover experimental or unproven treatments, the costs for these treatments must be paid by patients able and willing to pay for them, or absorbed by the providers/developers of these services as research and development costs, to be recovered if and when the treatments are proven to be effective, or through inflated prices for covered treatments.

(e.g., cosmetic procedures), or if they are uninsured. An issue with such care is that follow-up care may be awkward and/or expensive. In terms of efficiency and innovation, including the funding of such care through the various funding pathways appears to be desirable.

### **Long-Term/Custodial Care**

Most health insurance does not cover the cost of long-term/custodial care. Individuals may buy long-term care insurance separately from health insurance to pay some portion of the cost of such care if it becomes necessary. At this time, the funding pathways for such care are predominantly through individuals (via insurance or payment for care directly as needed) or through government programs. As our population ages and life spans increase, there is concern that governments may not be able to provide the necessary funding; consequently, some contend that more individuals should be encouraged—through monetary incentives or otherwise—to purchase long-term care insurance. The recently enacted health care reforms contain some incentives to do so by establishing a voluntary long-term care insurance program

run by the federal government (CLASS Program). From an actuarial perspective, these costs appear to be “insurable”—i.e., potentially large and unpredictable; therefore, incentives to insure such costs appear to be appropriate, assuming the government program is designed to be actuarially sound and sustainable.

### **Epidemics/New Diseases**

Large spikes in costs associated with epidemics or new diseases can put strains on any

## **HIGH-QUALITY HEALTH CARE IS AVAILABLE OUTSIDE THE UNITED STATES AT PRICES MUCH LOWER THAN SIMILAR CARE PROVIDED IN THE UNITED STATES.**

cost to the individual (funded by government) or by having people pay for them directly, with government subsidies for those who cannot afford them.

### **“Orphan Diseases”**

Diseases or conditions that affect very few people are generally covered by health insurance programs, including both private sector and public sector insurance programs. However, coverage of costs to treat such diseases/conditions may not provide sufficient funds or incentives to support the research needed to find treatments/cures, because the number of people affected is small. Special support of research through targeted government programs or charitable organizations focused on such diseases is often needed.

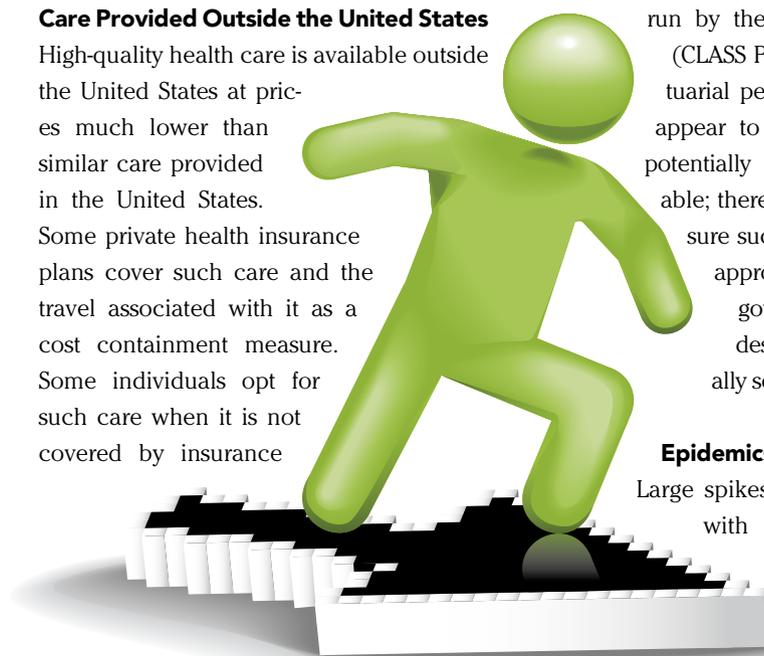
### **Experimental Treatments, Unproven Treatments, Clinical Trials**

Most health insurance does not cover treatments that are experimental, not “medically necessary,” or in clinical trials. The recently enacted health care reforms require coverage of participation in clinical trials

Requiring such treatments to be covered by insurance would drive up insurance premium rates. Coverage of such treatments only if they are being tested in controlled clinical trials limits the impact on premium rates, while supporting the generation of sound evidence on which to base future coverage decisions.

### **Care Provided Outside the United States**

High-quality health care is available outside the United States at prices much lower than similar care provided in the United States. Some private health insurance plans cover such care and the travel associated with it as a cost containment measure. Some individuals opt for such care when it is not covered by insurance



of the funding pathways. Except for funding through the federal government, which is able to handle cost spikes through its control of monetary and fiscal policy, it is advisable that all funding pathways have catastrophic reinsurance coverage through organizations financially able and willing to provide such coverage.

### End-of-Life Care

This is a difficult ethical and emotional issue. However, as our population ages, laws, regulations or standards of practice that require health care providers to deliver all possible care under all circumstances may put impossible demands on any of the available funding pathways. There are instances in which steps that can be taken to prolong life may not be in the best interests of the patient. It is essential that our society deal comprehensively and courageously with the questions of which care, under what circumstances, should be funded through pathways other than directly paid for by individual patients and their families.

### CONCLUSIONS/RECOMMENDATIONS

The many facets of health care and differing needs of the population, along with various pathways available to bring the needed resources to bear on the issues, result in a complex matrix of possibilities. The challenge is to construct a funding system that matches the strengths of each pathway to needs in such a way that inefficiencies are minimized and undesirable side effects are avoided.

There are a number of possible permutations that could achieve these goals, but any proposed solution must be comprehensive in scope and should be “tested” against the following principles:

- It must be adequate to cover realistic cost projections and be sustainable

over time. We tend to underestimate cost trends and overestimate our ability to manage them. Budgeting for the best-case scenario will surely lead to disappointment. To be sustainable, the system must reflect our society’s values and priorities.

- Transparency should be built into the system in order that society may decide whether or not these values are being addressed properly.
- We must recognize that the funding pathway will often have an effect on costs. Removing barriers to access can lead to excessive administration and over-utilization, driving costs up. Centralized processing without oversight, accountability and financial incentives may lead to fraud and abuse. Personal funding of reasonably affordable services promotes smart purchasing, which avoids waste and lowers costs.
- The potential for unintended consequences under each pathway should be recognized and appropriate mechanisms must be in place to detect them early and take corrective actions.
- There must be sufficient flexibility built into the system to respond and adapt to unforeseen issues such as emerging new illnesses, demographic shifts and economic cycles; to address the emergence of unintended consequences; and to adapt to changing social values.

### WRAPPING IT UP

This is the last of our series on health actuaries’ take on health care reform. Throughout, we have benefited by the knowledge, wisdom and unselfish sharing of our many actuarial associates. We hope we have accurately and concisely depicted their varied perspectives. We hope they, and

you, will continue to promote responsible health care reform to the best of our collective abilities, keeping in mind that we have only just begun this process. It is our strong bias that constructive actuarial input to this very important issue at all levels will result in a more socially and fiscally responsible end result. **A**

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# THE FULLS OF RISK A



# PECTRUM TTITUDE

**FOR ERM TO TRULY BE SUCCESSFUL, it needs to broaden its scope and change with the risk environment.** BY ALICE UNDERWOOD AND DAVID INGRAM



Lately, risk management authorities including regulators and rating agencies have been trying to tell firms how they should think about and manage risk. Actuaries who have labored in risk management through the boom period before the crisis—a period when risk managers were largely ignored—are very happy that those authorities may finally be empowered to force firms to get with the program. But, such decrees are not necessarily working and will not work in the long run, because individuals and companies have risk perspectives that cannot be changed by fiat—any more than mandating a favorite color for everyone would change anyone’s real favorite color.

Corporations and the people who run them have their own views of risk and risk management. These perspectives have formed over time, in response to personal and firm experiences, by current risk taking capacity, by the changing business environment, and by being influenced by

## CORPORATIONS AND THE PEOPLE WHO RUN THEM HAVE THEIR OWN VIEWS OF RISK AND RISK MANAGEMENT.

watching various strategies succeed or fail. Studies show that risk perspectives fall into four broad groups with almost wholly incompatible views—and only one of those four perspectives is totally compatible with the current paradigm of Enterprise Risk Management (ERM). If proponents of ERM do not offer approaches that make sense for each of the four risk perspectives, ERM can and will fall out of management favor as it had in many firms during the recent boom.

### FOUR DIFFERENT PERSPECTIVES ON RISK

The four basic risk perspectives were first discovered in the context of research that was not originally seeking to study risk attitudes. But clear patterns emerged in the data and have proved quite resilient over time. Most people tend to identify with one of the following perspectives:

- **Maximizers.** This perspective does not consider risk to be very important—profits are important. Businesses managed according to this perspective will accept large risks, so long as they are well compensated. Managers who hold this perspective believe that risk is mean reverting—gains will always follow losses—and the best companies will have larger gains and smaller losses over time.
- **Conservators.** According to this perspective, increasing profit is not as important as avoiding loss. Holders of this view often feel that the world is filled with many, many dangerous

risks that they must be very careful to avoid.

- **Managers.** Careful balancing of risks and rewards is the heart of this perspective. Firms that hold this view employ experts to help them find risks offering the best rewards, while at the same time managing these risks to keep the firm safe. They believe that they can balance the concerns of the first two groups, plotting a very careful course between them.

- **Pragmatists.** This perspective is not based on a specific theory of risk. Pragmatists do not believe that the future is predictable—so, to the greatest extent possible, they avoid commitments and keep their options open. They do not think that strategic planning is especially valuable, but rather seek freedom to react to changing conditions.

Each of the different perspectives leads to a strategy for dealing with risk. Firms led by Maximizers seek out risk, believing that no risk is inherently unacceptable—every risk presents an opportunity, and the trick is to negotiate appropriate compensation. Conservator firms shun risk of all sorts. Manager firms carefully manage and calibrate both the amount and type of risk. Pragmatist firms seek diversification but otherwise have no overarching strategy—they operate tactically, reacting to each new development.

### RESISTANCE TO THE CURRENT ERM PARADIGM IS INEVITABLE

The ERM paradigm currently touted as the solution to all risk problems comes straight out of the Manager playbook. ERM helps firms with a Manager orientation to do a better job at what they were trying to do anyway.

But, given the four fundamental risk perspectives (and various hybrids thereof), it’s hardly surprising that adoption of ERM has been less than universal and often less than enthusiastic. No matter how reasonable ERM sounds to its Manager-oriented proponents, it does not align as well with other risk perspectives. In many cases, managers are only pretending that ERM is their new management program.

Maximizer firms see ERM as an unnecessary restriction. Why should a limited risk appetite be enforced, when any risk can be accepted for the proper price? That means turning away potential profit! If a Maximizer firm bows to outside demands for ERM—such as those imposed by a rating agency or regulator—this may be largely a charade, a sop to the unrealistic pessimists and worrywarts.

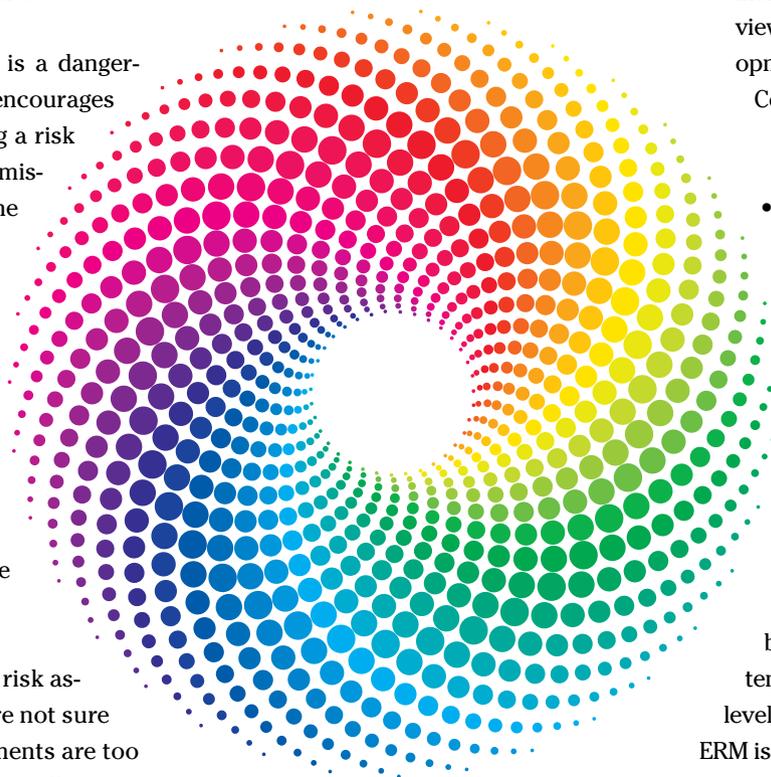
For Conservator firms, ERM is a dangerous strategy because it encourages taking more risk. Establishing a risk appetite would only give permission to the cowboys in the ranks to expand risks to fill that risk budget. While such a firm may—with trepidation—adopt an ERM program, Conservator executives remain convinced that risk assessments can never be comprehensive enough; risk quantification cannot be trusted because the result is always too low.

Pragmatic firms do not trust risk assessments either. But they are not sure whether the existing assessments are too optimistic or too pessimistic. Adherents of the Pragmatist perspective think that ERM takes too constant a view of an ever-changing world. In their minds, ERM means letting a model run the company. And a fixed set of rules and metrics hampers their ability to react to changing circumstances.

In a world of multiple risk perspectives, a Managerial-only approach to ERM is as self-limiting as an auto manufacturer that offers “any color you want, as long as it’s black.”

### ERM NEEDS A BIGGER TENT

The truth is, risk management in one form or another has been practiced since the dawn of time—by adherents of all of the four basic risk perspectives. And it would be difficult to argue that adding an enterprise-wide view to any risk management strategy is not beneficial. A broader and more flexible definition



of ERM would bring more managers and more firms “into the tent,” enabling the benefits of an enterprise-wide view of risk to be realized more broadly.

Careful examination of risk management practices in a large number of financial and non-financial firms reveals that there are four different strategies that fall under the general heading of risk management:

- **Loss Controlling.** This is the most traditional form of risk management;

it seeks to identify and mitigate the firm’s most significant risks. Commonly practiced by nonfinancial firms, Loss Controlling also applies to financial risk; examples include the careful underwriting of loans or insurance policies, as well as the practice of claims management. Risk management of this sort is not new—but the inclusion of an aggregate, firm-wide view of risk is a relatively new development that could be termed Loss Controlling ERM. This type of ERM is favored by Conservator firms.

- **Risk Trading.** A newer form of risk management, this approach arose from bank trading desks and the insurance industry. Risk Trading focuses on getting the price of risk correct—which leads to sometimes complicated models of risk, reward and economic capital. While a Risk Trading strategy can be applied on a transaction-by-transaction or other “siloed” basis, establishment of a consistent risk valuation on a firm-wide level is Risk Trading ERM. This type of ERM is favored by Maximizer firms.

- **Risk Steering.** Under this strategy, the ideas of Risk Trading are applied at a macro level to the major strategic decisions of the firm. Here, rather than focusing on the proper price of risk, the question becomes one of how much risk the firm should take—and how to steer the firm in that ideal direction. By its very nature, this is an enterprise-wide approach. Perhaps this is why some seem to think that only Risk Steering ERM is “real” ERM. Risk Steering

ERM is highly favored by academics and consultants; Manager firms find it appealing, but firms that hold any of the other three strategies do not.

- **Diversification.** Spreading risk exposures among a variety of different classes of risks, and avoiding large risk concentrations, is another traditional form of risk management. Formal diversification programs will have targets for the spread of risk with maximums and minimums for various classes of risks. The newer ERM discipline adds the idea of interdependencies across classes, providing better quantification of the benefits of risk spreading. Pragmatists tend to favor diversification because it maximizes their tactical flexibility, but they avoid reliance on any particular risk mitigation process and often mistrust quantitative measurement of diversification benefits.

We believe that limiting the field of ERM to Risk Steering ERM alone would be a serious error. Such a restrictive definition of ERM would alienate firms and practitioners holding any of the other three risk

enclosed no doubt by personality, individual differences in color perception, and early experiences and associations. The existence of the four different risk perspectives may be easier to explain—and clearly a key factor is that, over time, the risk environment changes.

A simplistic model of changes in the risk environment might posit that either things are “normal” or they are “broken.” But people do not necessarily agree about what is “normal.” An observer viewing the world through the lens of Conservation might say that extreme hazard and danger are the “normal” state of affairs—while a Maximizer, finding this view timid and overly pessimistic, might argue that profitability is “normal” and hazardous conditions prevail only when the market is “broken.”

Expanding the model to allow more than two states allows for the possibility that both the Conservation view and the Maximization view can make sense. Consider a model with four risk regimes:

1. **Boom Times.** Risk is low and profits are going up.

2. **Recession.** Risk is high and profits are going down.

3. **Uncertain.** Risk is very unpredictable; profits might go up or down.

4. **Moderate.** Both risk and profit fall within a predictable range.

(These ideas are explained more fully in the article “The Many Stages of Risk,” December ‘09/January ‘10 *The Actuary*.)

Such a model seems to be a reasonable description of economic cycles—whether in the banking world, the insurance sector or the broader economy. As the cycle moves through these four different states, external conditions match the worldview of each of the four different risk perspectives. Each perspective has been correct part of the time—and will be again, at some point in the future. But none of the risk perspectives is perfectly adapted to external conditions all of the time.

Purists with the Manager point of view may object that their view takes into account the full range of the cycle. But economic cycles are not sine curves; the period and amplitude are irregular, unexpected “black swan” events do occur, and there are always “unknown unknowns.” Model risk can never be eliminated, and restricting ERM to a Manager-only view obscures this important fact.

A Risk Steering ERM program works especially well in the Moderate risk environment when risks are fairly predictable. But in a Boom Times environment, firms following such a program will unduly restrict their business—not as much as Conservator firms, but certainly more than Maximizer firms—and more aggressive competitors will be much more successful. In the Recession environment, a Risk Steering ERM program again advocates a middle path; this may mean the firm sustains too much damage to be positioned to take full advantage of the market when it turns. When times are Uncertain, a firm following a Risk Steering ERM program will be frustrated by frequent surprises and a world that does not quite fit the model. Competitors not tied to a particular view of risk will fare better, making decisions in the moment with maximum flexibility.

## WE BELIEVE THAT LIMITING THE FIELD OF ENTERPRISE RISK MANAGEMENT TO RISK STEERING ERM ALONE WOULD BE A SERIOUS ERROR.

perspectives. Moreover, such a limited view is inherently incomplete, for reasons that the Pragmatists know all too well.

Simply put, the world does not stand still.

### CHANGING RISK ENVIRONMENTS

Why do different people prefer different colors? That’s a difficult question, influ-

## Table 1: Alignment of Attitude, Environment and Strategy

RISK ATTITUDE	Maximizer	Conservator	Pragmatist	Manager
Risk Environment	Boom	Recession	Uncertain	Moderate
Risk Management Strategy	Risk Trading	Loss Controlling	Diversification	Risk Steering

members of one discipline should not feel slighted when the expertise of another discipline is called upon. Similarly, any firm that wishes to optimize its

Why do corporations adhere to a particular risk perspective? The firm may have been formed during an environment aligned with their perspective. Alternatively, the company may have suffered traumatic damage during a period of dissonance between an old perspective and the risk environment and then made a shift, perhaps under the direction of new leadership. The firm may have been wildly successful at some point in the past, and now clings stubbornly to the strategy that worked for them then. Corporate culture tends to be self-perpetuating: individuals are drawn to employers with a perspective that makes sense to them—and those in a position to make hiring decisions typically prefer to hire staff whose views mesh with their own.

In any given risk environment, companies holding a risk perspective and following an ERM program aligned with external circumstances will fare best. (See table 1)

Yet in each risk regime, there are companies following strategies that are not well aligned with the environment. Some of these firms muddle along with indifferent results and survive until their preferred environment comes back. Others sustain enough damage that they do not survive; some change their risk perspective and ERM program to take advantage of the new environment. Meanwhile, new firms enter the market with risk perspectives and ERM programs that are aligned with the current environment.

Since many of the poorly aligned firms shrink, die out or change perspective—

and since new firms tend to be well-aligned with the current risk regime—the market as a whole adjusts to greater alignment with the risk environment via a process of “natural selection.”

### RATIONAL ADAPTABILITY

In order to thrive under all future risk regimes, a firm ideally would follow a strategy of Rational Adaptability. This involves three key steps:

1. Discernment of changes in risk regime,
2. Willingness to shift risk perspective, and
3. Ability to modify ERM program.

The difference between Rational Adaptability and the process of “natural selection” described above is conscious recognition of the validity of differing risk perspectives and proactive implementation of changes in strategy.

Individuals often find it difficult to change their risk perspective. Therefore, a company that wishes to adopt Rational Adaptability must ensure that its key decision-makers represent a diversity of risk perspectives. Furthermore, the corporate culture and the managers themselves must value each of the risk perspectives for its contributions to the firm’s continued success.

An insurance company is best served by drawing on the respective expertise of underwriters, actuaries, accountants, contract attorneys and claims experts—and

success under each of the various risk regimes should have Maximizers, Conservators, Managers and Pragmatists among its senior management; and those who hold any one of these risk perspectives should acknowledge that there are times when another perspective should take the lead. The CEO must exercise judgment and restraint, shifting among strategies as needed and shifting responsibilities among the management team as required.

Rational Adaptability recognizes that during Boom Times, risk really does present significant opportunities—and it is appropriate to empower the Profit Maximizers, focusing ERM efforts on Risk Trading to ensure that risks are correctly priced using a consistent firm-wide metric. When the environment is Moderate, the firm employing Rational Adaptability will give additional authority to its Risk Reward Managers, examining the results of their modeling and using these to reevaluate long-term strategies. And in times of Recession, a firm following Rational Adaptability shifts its focus to Conservation: tightening underwriting standards and placing special emphasis on firm-wide risk identification and risk control. Resisting the pull of his or her own personal risk perspective, the CEO must be willing to listen—and act—when others in the firm warn that the company’s risk management strategy is getting a little too monochromatic.

### HARMONY

Although Rational Adaptability may well be an ideal solution, it requires the ac-

complishment of all three very difficult tasks at the same time. Achievement of any of those tasks is not easy or common.

An alternative is to seek to find Harmony from the discordant voices within the firm that represent the four risk attitudes. And all four voices will exist within most firms. To achieve harmony, the risk committees must provide seats not just for the managers in the firm who believe fervently in the risk models and the Risk Steering programs that are based upon those models, but also for those who distrust

Every harmonious firm will admit that they cannot achieve the equivalent of perfect market timing with their risk approach and will therefore create its own unique compromises among the four views. Different firms will choose different times and ways to honor the inherent caution of the Conservators, to heed the Pragmatists' call for diversification, to follow the models of the Risk Reward Managers, or to give the Profit Maximizers greater scope to grow. The resulting strategy will never seem perfectly "right" to any of the four groups. But as the environment shifts among Moderate, Boom, Recession and Un-

## ... FIRMS THAT ARE BEST ABLE TO ADAPT TO THE MARKET'S CHANGING DEMANDS WILL ENJOY THE GREATEST SUCCESS.

such models. Most risk committees are populated by Managers and Maximizers. An unsteady coalition between those two perspectives forms the core of most businesses, and experienced businesspeople can often tell stories of classic battles between the two points of view.

Conservators and Pragmatists are usually present as well, but their views are not always welcomed in discussions about major corporate decisions. They may have learned to keep their ideas to themselves. However, they should also be represented in the risk management process because their views of risk will sometimes be more appropriate to the risk environment than the views of the Maximizers and Managers. The trick to creating Harmony from these various points of view is to get all members of the risk committee to acknowledge that each of the four perspectives offers value to the organization and to encourage each of the four to speak out.

certain regimes, the harmonious firm will be able to show reasonable success in each environment and avoid unreasonable failure.

### CONCLUSION

In the open market for goods and services, the firms that are best able to adapt to the market's changing demands will enjoy the greatest success. No firm can be all things to all customers, all of the time; but a firm that too severely limits its offering, focusing on too narrow a market segment, may wind up making itself irrelevant. Philosophies of risk management face much the same situation.

A recent study by Kay, Goldspink and Dyson sought to explore attitudes toward ERM by assessing the predominant risk perspective exhibited by various professional groups. Their results show that "[k]ey aspects of the Hyper-Rational approach favoured by the actuaries were often seen as irrelevant to, or explicitly rejected by, the Operational and Strategic sub-groups." While resistance

to ERM is sometimes blamed on poor communication, this study suggests that "any communication issues are symptomatic of the broader paradigm issues described above, not the cause ... the issue is that stakeholders don't believe the validity of the message."

In order to gain traction across the full spectrum of human risk perspectives, the discipline of ERM must include approaches that fit the Profit Maximizing, Conservation and Pragmatic risk perspectives as well as the Risk Reward perspective. And, in order to remain relevant and help firms flourish in all risk environments, ERM must embrace a harmonious approach, drawing from the entire palette of strategies to suit the changing environment. ▣

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Interview

## NICK BLITTERSWYK IT'S EASY BEING GREEN

BY JACQUE KIRKWOOD

*The wilderness was what Nick Blitterswyk, FSA, CERA, MAAA, was comfortable with while he was growing up. His parents were caretakers of a park in a remote area of Vancouver Island. He learned to respect the earth and its natural resources early on. He always knew he would be involved in conservation career wise, particularly urban renewable space. His “eureka moment,” as he calls it, came after months*

*of diligent research when the perfect niche was discovered. With the help and support of two co-founders, his dream company, Urban Green Energy (UGE), became a reality.*



**Q: What is UGE and what does the company do?**

**A:** At UGE we are tackling the question of how best to make use of wind on a small scale. We are now the world's leading manufacturer of vertical axis wind turbines, having sold our products in nearly 30 countries. We are headquartered in New York City and have offices in London and Beijing, along with a worldwide distribution network of 150 companies.



**Q: What is your role at the company?  
What is your main focus?**

**A:** I serve as the CEO of UGE. Currently I am most focused on business and product development, while managing the company's fast growth. Worldwide we have 95 employees on three continents, and we are developing new products. There are always new challenges to face!



**Q: What types of challenges?**

**A:** Many of these challenges are a result of running a fast growing, international company. We're expanding at a pretty fast pace; the need to have systems that track all aspects of the company becomes increasingly important as it is no longer possible to remember every aspect of every order in one's head. Likewise, as the number of employees continues to grow—both in the United States and abroad—it becomes very important to strengthen bonds between offices to ensure that we still act as one.

For the most part, these are the best types of challenges to encounter. I liken these challenges to putting out fires and more like herding sheep—there are always different aspects of the company that momentarily fall behind the others, but by identifying and correcting them early on, it is possible to keep each issue to a manageable size and resolve it in an efficient time frame.



**Q: How did UGE get off the ground?**

**A:** I grew up in western Canada where my parents were the caretakers of a provincial park in a remote area of Vancouver Island. Wilderness was all I knew until much later in life when I moved to Victoria, then Calgary,

**eddy is nearly silent and looks more like a sculpture than your typical wind turbine.**

and then on to New York. Though I enjoyed working as an actuary, I felt drawn toward helping the environment in some way.

In 2007 I had the idea to start UGE based on the evident need for new solutions to our energy problems. Having always been an environmentalist at heart, I was looking for a way to transition the skills I had developed as an actuary into the clean energy sector. After extensive research, I discovered the young field of vertical axis wind turbines and spotted a great opportunity. Within a matter of months, my two co-founders and I had started UGE.



**Q: What sparked the idea for the company?**

**A:** I think that most of us now realize the need to switch to cleaner sources of fuel and those conversations generally surround wind and solar, with geothermal and bio-fuels also being mentioned. Wind and solar—small solar applications, such as fitting a home with solar panels for its roof and large wind applications, such as wind farms—have both become mainstream. Large solar is becoming more common with several big developments currently underway.

But small wind really seemed to represent the biggest opportunity to me. There was so much room for innovation, and the market had just barely been tapped. By researching the market, we determined that it was

a great opportunity for a company. And it was certainly a plus working in a field we were really passionate about.



**Q: What is your most popular product?**

**A:** Recently we launched our newest vertical axis wind turbine, "eddy." Though just launched in May 2010, it already counts among its customers Madonna's Raising Malawi Foundation, the Prime Minister of Cambodia and Virginia Tech University.

eddy is primarily built for residential use. A homeowner using an eddy wind turbine will offset 15–20 percent of his or her home's energy consumption with the wind turbine, more if maximizing use of energy efficient lighting and appliances. eddy also comes with a *Solar Ready* controller, meaning eddy can tie right into an existing solar system or solar panels can be added to an eddy system at a later date.

eddy is nearly silent and looks more like a sculpture than your typical wind turbine. We have purposely made it very easy to install to the point where it can be assembled in about 30 minutes. It can also be installed on either a tower or on a home's roof, making it even more versatile.

The great thing about vertical axis wind turbines is that they can simultaneously take wind from any direction. On a small scale, most wind turbines are installed much closer to the ground than in a utility-scale wind farm because of local regulations and the high cost of tall towers. Closer to the ground winds change directions more frequently and are less laminar.

## In general, I try my best to make some type of positive impact on the world with regard to conserving our natural resources ...

In other words, they are lower quality. To make a small wind practical, the wind turbine needs to be able to best harvest these winds, and that is just what we have been able to achieve with eddy and our full line of vertical axis wind turbines.



**Q: What has been your biggest challenge on the job?**

**A:** Although new challenges are faced every day, the biggest challenge was leaving the security of a well-paying job as an actuary to become an entrepreneur. Fortunately the road so far has been smoother than it otherwise could have been, thanks to the support of friends and family who believed in the concept of UGE and continue to support its mission.

The biggest challenge leads into the most memorable achievement, which has been the continued joy of building up UGE from an idea in the summer of 2007 to an international renewable energy leader. Every challenge we meet brings new opportuni-

ties and rewards, making each week that much more exciting than the last.



**Q: Has your background as an actuary positively impacted your career?**

**A:** To be an actuary, one needs to be ex-

tremely diligent, which has certainly paid off in starting a company. Starting a company takes hours and hours of hard work, and the resolve to stick with it when you hit a bump in the road. Sounds like studying for exams, right? On the road to becoming an FSA (2008), I chose the finance track which has also benefited me a lot in starting up, and running, a new business.

As an actuary, I primarily worked as a consultant (Towers Perrin and then JPMorgan). Both companies helped me develop and hone my ability to multitask, while at the same time they stressed hard work and professionalism. I feel strongly that what I learned from time spent at both companies shines through in the types of products and services we provide here at UGE.



**Q: What should an actuary keep in mind if he or she wants to start a business?**

**A:** The first thing that everyone should know is that it will never be easy. There is a reason that most new companies fail! The ones that succeed are rarely profit-

able for several years. Be prepared to face many obstacles that will make you question whether you have made the right decision. In the end, it is persistence that is the most valuable asset you can have.

Second, I would never suggest starting a company just for the sake of doing so. Before starting UGE I actually decided that I wanted to work in the urban renewable space, and set out to find a position in a suitable wind energy company. It was during these months of research that I had my "eureka!" moment. No such company existed. So we set off to start UGE.

And third, there is no greater reward than to see the company you started growing into a mature organization. It makes all the challenges worthwhile.



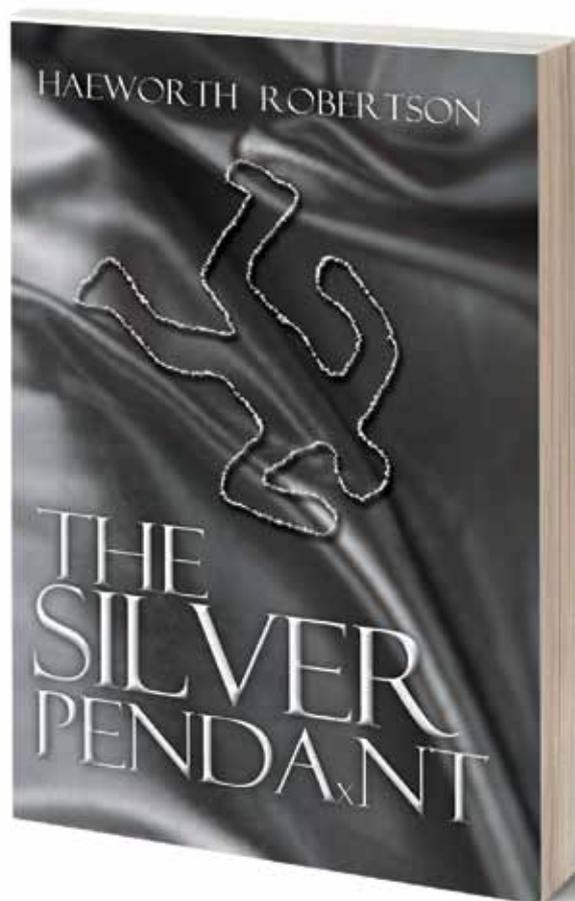
**Q: You're green at work. Are you green at home?**

**A:** Absolutely. As an environmentalist, I am a devoted recycler. Although I am not a vegetarian yet, I know that should be next on my list. Perhaps I will first become a weekday vegetarian like Tree Hugger's Graham Hill! In general, I try my best to make some type of positive impact on the world with regard to conserving our natural resources, while still enjoying myself. **A**

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Interview

## A. HAEWORTH ROBERTSON FROM FACT TO FICTION

BY STEVE SIEGEL

*How do you celebrate your fellowship anniversary? A. Haeworth Robertson, FSA, MAAA, celebrated his 50th fellowship anniversary last year by writing *The Silver Pendant*, a novella about an actuary who solves a murder mystery. It was his first attempt at fiction, after years of writing about the need for reform of Social Security and Medicare. *The Actuary* recently caught up*

*with Haeworth to learn more about this inspirational anniversary endeavor.*

**Q: You've recently completed a murder mystery related to the life settlement industry. What motivated you to branch out from your previous writing on Social Security into fiction?**

**A:** The simple answer—without trying to overanalyze it—is that it's just something I've wanted to do for a long time.

By way of background:

As an actuary, I've spent my entire professional life writing and explaining things—initially, and for many years, in actuarial

reports on pension plans. Then I switched to social insurance.

My first full-length book was in 1981 when I wrote *The Coming Revolution in Social Security*. This was followed by two more social insurance books, in 1992 and 1997. I wrote these because I was highly motivated to explain something that I believed the public should know.

All this writing was done for specific purposes, but I began to realize that I just liked

## An actuary as hero is an uncommon, but attractive, theme.

to write and to explain. A friend once designed and had printed a business card for me that identified me as “Chairman—Department of Consulting & Explaining.”

In 2002, I had some health problems from which I wasn’t sure I’d recover. This resulted in living a life of less action and more introspection; and writing an autobiography of 145,000 words.

But life didn’t end and I still had time to do a few more things I’d always wanted to do—even frivolous things like write a novel.

**Q: How did you come up with the idea for the book—particularly with an actuary as the hero?**

**A:** Several years ago, I read a newspaper article about “viatical settlements,” something I’d never heard of. Immediately, I recognized the moral hazard of a situation where a person was “worth more dead than alive”—at least to the new owner/beneficiary of a life insurance policy. So I conceived the idea of a murder mystery

that would be natural for an actuary to solve. An actuary as hero is an uncommon, but attractive, theme.

One night about 10 months ago—I don’t remember what the impetus was—I started writing, not having outlined the entire plot and not knowing where the story would go or how it would end.

Initially, I had no social purpose in mind as I had in previous writings. However, as the book developed, I felt it served as a serious

warning about viatical/life settlements and “stranger-originated” life insurance, if they were not regulated and monitored properly.

**Q: How did you go about the writing process for the book? Did you take any classes on fiction writing or participate in a writing workshop?**

**A:** Thirty years ago when I was writing non-fiction, I attended several two-day conferences for writers. Most participants were writing romance novels, yet I enjoyed being in their company. It was an interesting—and refreshing—change from actuarial conferences where people were discussing the latest IRS rules and regulations.

More recently, I’ve participated in several workshops for memoir writing and creative writing. In these workshops, I may have learned something about writing, but it was not consequential. The most important thing was the inspiration derived from associating with a small group of aspiring writers. When a fellow participant in these workshops wrote about and shared some personal experi-

ences, it somehow made it seem OK to write about my own experiences. These workshops almost functioned like a therapy group. I believe that writing, itself, is a form of therapy.

I write on a computer, a big shift from my social insurance books that were written longhand. I don’t have a routine, like writing five hours or 2,000 words a day. I write when I feel like it, regardless of the time of day or where I am. But when I’m in the middle of a project I usually feel like it.

**Q: Do you have any favorite writers who might have influenced you? If so, what lessons did you learn from them?**

**A:** No, not really. And I don’t consciously try to copy anyone’s style. Some 40 years ago, I remember admiring the clear writing style of Robert L. Heilbroner in his book, *The Worldly Philosophers: The lives, times and ideas of the great economic thinkers*.

When I was writing *The Coming Revolution in Social Security* 30 years ago, I remember identifying with the main character in *The Moon and Sixpence* by W. Somerset Maugham. This is a book—inspired by the life of artist Paul Gauguin—about a man possessed by the need to create, regardless of the cost to himself and others. In short, he is obsessed.

Writing is not a casual endeavor. In my opinion, one has to have at least some degree of obsession with a topic to be an effective writer.

**Q: It’s really inspiring that you undertook such a writing effort. What advice do you have for other actuaries who might be similarly inclined to try their hand at fiction?**

**A:** As the Nike ad says: *Just do it!* Join a beginning writers’ workshop. Attend a

writers' conference for inspiration. Read a book about writing. If nothing else, write about your experiences last weekend, even if no one else reads it—and even if nothing exciting happened to you. Start writing your memoirs.

Some actuaries may not believe they can be competent authors. But the same skills used to explain complicated technical matters can be used to explain almost anything. I would encourage everyone to write about their experiences and reflections on life. It will frequently yield unforeseen, surprising and beneficial consequences.

One of my own unexpected dividends from writing *The Silver Pendant* has been renewed contact with lots of old friends. Many have shared their personal stories related to incidents in the book.

**Q: How did you find a publisher?**

**A:** It's practically impossible for a first-time novelist to find an agent or a publisher, and I didn't even try. The book was self-published, using the services of a book printer in Winnipeg, Canada. Lots of effort went into working with the book printer to design the book and its cover, to establish a website to market the book, etc. My older daughter, Valerie, herself an editor and publisher, helped me with this. I'd be glad to share those experiences with budding authors.

**Q: Are you working on any other books?**

**A:** If this book is reasonably well received I will write more about the actuary/hero in *The Silver Pendant*. I have lots of ideas for his adventures as he becomes an "investigative actu-

ary." There are plenty of wrongs to right. In fact, I may write a sequel even if it's not published and not read by anyone except my family.

At age 80, I may no longer be able to downhill ski in the Swiss Alps or hike down into the Grand Canyon, but I can still imagine and write—and enjoy vicarious experiences.

More details about the book and how to obtain a copy can be found at <http://silverpendantmystery.com>. 

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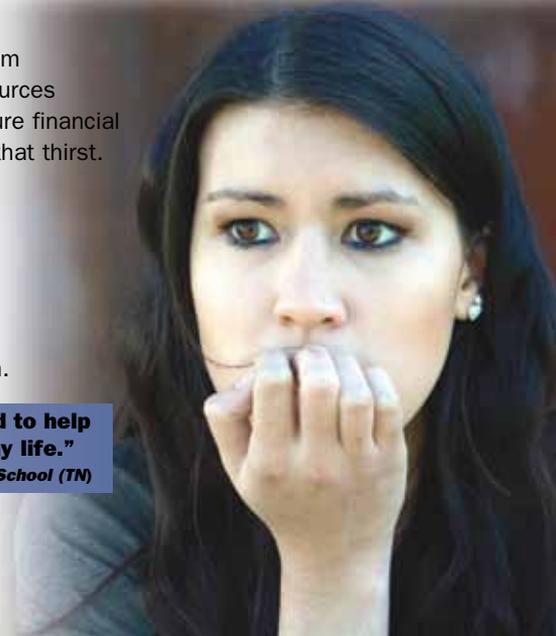
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# WHAT'S A DMAC MODULE?

BY WARREN LUCKNER

**EMPLOYER SURVEYS** have consistently supported a belief that actuaries are deficient in communication and other non-technical business skills. This perception continues. The most recent survey was conducted in 2009 and gave high marks to actuaries for quantitative skills, attention to detail and trustworthiness. However, survey data also indicated that actuaries continue to fall short in effective communication, strategic thinking, interpersonal skills, managerial skills, adaptability and flexibility. In response to these consistent findings, the SOA added the Decision Making and Communication Module (DMAC) in 2007.

The DMAC module provides a foundation for making decisions related to complex business problems that require the involvement of all stakeholders and decision makers. Emphasis is on the fact that the decision making in which actuaries are involved often goes beyond actuarial decisions. The module also provides instruction on effective communication—listening, oral and written—and an overview of the SOA's entire competency framework, as well as insights regarding working with others.

**Q: Why write about it now?**

**A:** An extensive revision to the DMAC

module is underway. As curriculum general officer for DMAC, I thought this would be a great opportunity to let SOA members know what new actuaries are learning. I also thought it might encourage members to consider taking the module themselves.

**Q: What's changed?**

**A:** There were two major issues that motivated a revision of DMAC:

- A concern that there was too much emphasis on formal report writing, and not enough on decision making, and
- The desire to better prepare candidates for the required final project.

To give you a sense of the purpose and learning outcomes of DMAC, the following is taken directly from the revised module.

The purpose of the Decision Making and Communication module is to help prepare you to:

- Participate in and influence the decision-making process in your work environment.
- Anticipate the kinds of questions that

go into making business decisions.

- Partner with management and others to identify a range of viable options related to the decision to be made.
- Work effectively with others.
- Continue to enhance your communication skills.

After you complete this module, you will be able to:

- Describe the Integrated Decision-Making Process.
- Identify the competencies that support the steps of the decision-making process.
- Complete the steps in each stage of the Integrated Decision-Making Process.
- Evaluate the effectiveness of a decision-making process when applied to a business problem involving a variety of stakeholders.
- Demonstrate effective business communication techniques.
- Describe working preferences and how to relate to others based on preferences.

Both the decision-making and communication aspects are enhanced in the revised module.



Warren Luckner

## DECISION MAKING

In the previous version, candidates learned about decision making, but were not given an organized method for making decisions. For the revision, an Integrated Decision-Making Framework was created. It is supported by the book *How Great Decisions Get Made: 10 Easy Steps for Reaching Agreement on Even the Toughest Issues* by Don Maruska.

The Integrated Decision-Making Framework includes four major stages:

### 1. Build Team

The Build Team stage begins by requiring that all stakeholders be brought into the decision-making process. The stakeholders work together to identify the true problem to be addressed by determining their hopes for the decision process. The team then identifies the options available to address the underlying problem.

### 2. Investigate Options

The Investigate Options stage is the point where most actuaries would consider the real work to begin. The options identified in the Build Team stage are assessed through data gathering and analysis. Finally, the team selects the appropriate criteria to judge the various options.

### 3. Make Decision

The Make Decision stage is where the criteria are applied and the best option selected. This sounds simple, but work is needed to establish the “best alternative” to the chosen option. All stakeholders must be allowed to participate in the decision making in a trusting environ-

ment. A necessary final step of the Make Decision stage is to confirm the decision. The team’s commitment to implementing the option selected is critical.

### 4. Implement Decision

The Implement Decision stage begins by establishing a team to properly monitor the success of the option selected. Results of monitoring may indicate a redirection, perhaps to the previously identified best alternative. Or, important criteria that were not previously considered may become evident, which will return the team to the Investigate Options stage. If, while implementing the decision, a new problem emerges, it will be necessary to go back to the Build Team stage to address the new issue.

## COMMUNICATION

Candidates learn that communication includes listening, writing and speaking as well as non-verbal expressions. The revised DMAC module reviews a variety of specific forms of communication such as discussion, e-mail, memos, formal reports and presentations. Candidates learn the aspects of communication that are important for the DMAC project and the Fellowship Admissions Course (FAC) presentation.

The revised module addresses communication in three ways:

### 1. A comprehensive book on communication

The book *Messages: The Communication Skills Book* by Martha Davis, Patrick



# Did You Know?

## A RECURRING FEATURE OF e-LEARNING MODULES IS "DID YOU KNOW?" DO YOU KNOW THE FOLLOWING ABOUT DMAC?

- The DMAC module was created as part of the 2005 Exam Re-design and first offered in 2007. It was a response to employer feedback that actuaries were not receiving sufficient training in business skills, particularly communication and decision making.
- The DMAC module is one of the last components of fellowship study and candidates usually complete it just prior to attending the FAC.
- Candidates are expected to spend approximately 50–60 hours completing all of the activities included in the DMAC module.
- The DMAC module is also offered as professional development and can be taken by anyone, including FSAs, CERAs and nonmembers and may qualify for CPD credit. (FSA candidates should note that there are restrictions on when the module can be taken for fellowship credit. It can be found at [www.soa.org/pd-ecourses](http://www.soa.org/pd-ecourses).) **A**

Fanning and Matthew McKay was selected. An attractive feature of this book is that the readings and exercises provide a straightforward structure for candidates to practice their communication skills. Learning-by-doing applies to decision making and communication just as much as it does to actuarial science methods and techniques.

### 2. Incorporation within decision making

Rather than having separate module sections on communication and decision making, the revised module embeds communication elements throughout the presentation of the Integrated

Decision-Making Framework. Different communication methods are desirable at the various stages and those are introduced and explained as needed.

### 3. Working preferences

The revised module introduces actuaries to working preferences or styles such as the Myers-Briggs Type Indicator. Understanding yourself and others is obviously very helpful when participating in a decision-making process.

### PROJECT TIPS

To better assist candidates with project expectations, project tips have been added throughout the module sections to provide guidance on how to approach the project systematically. An example is given that provides insights into how the project might be constructed. In addition, a case study has been woven throughout the module to both enhance the decision-making

content and to assist candidates with project expectations.

### Q: What hasn't changed?

**A:** Many components of the DMAC module will remain constant.

### DMAC PROJECT

The project continues to be a formal assessment that involves effective communication of a decision-making process within the context of the candidate's experience. It is formally graded by member volunteers and a grade of "meets minimum requirements" is required prior to attendance at

the FAC. During the FAC a presentation based on their DMAC project must be given by all candidates.

### INTEGRATED E-LEARNING ACTIVITIES

One important component of the DMAC module is the "Ask An Actuary" question-and-answer series, in which actuaries share their experiences related to the various topics in the module. In addition, the case studies and other activities, presented in actuarial contexts, provide opportunities to apply the ideas and concepts presented.

### CLOSING

The revisions to the DMAC module enhance learning opportunities for candidates and address employer concerns in the areas of communication and strategic thinking. Through the addition of the Integrated Decision-Making Process and thoroughly incorporated communication elements, candidates are provided with an organized method for making decisions and effective tools for communicating throughout the process. **A**

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### More information

The detailed description of the DMAC module can be accessed at: <http://www.soa.org/education/exam-req/edu-module-dmac-detail.aspx>.

Frequently asked questions and responses can be accessed at: <http://www.soa.org/files/pdf/edu-dmac-faq.pdf>.

DMAC module as professional development: <http://www.soa.org/professional-development/e-learning/e-courses/default.aspx>.

without any repercussions—skills that can be brought back to the workplace.

### WHO ARE SOA VOLUNTEERS AND HOW ARE THEY RECRUITED?

A recent informal review of SOA volunteers provided some interesting details. Volunteers range in age from their 20s through their 80s. They consist of members who are both employed by large companies and who are entrepreneurs. And interestingly enough, they are usually very busy, not only with volunteering for the SOA, but volunteering elsewhere as well. In other words, all kinds of people, with varying backgrounds and levels of experience and expertise, volunteer at the SOA.

Personal contacts play an important role in recruiting volunteers at the SOA. A majority of volunteers are recruited by someone they know who already volunteers. However, the SOA continues to reach out to the membership directly and, as part of the Leadership Development Program, has developed an online Volunteer Interest Form for those interested in volunteering at the SOA. This form can be found at [www.soa.org/volunteer](http://www.soa.org/volunteer). In late 2010, we will be

launching a new area on the SOA website dedicated to volunteer information.

### WHAT ARE THE DIFFERENT VOLUNTEER OPPORTUNITIES, ENTRY POINTS AND PATHS TO LEADERSHIP?

The volunteer opportunities at the Society of Actuaries represent a wide spectrum of categories including committees, teams, task forces, project oversight groups and individual contributions. These can be found throughout the organization in Education, Research, Publications, Professional Interest Sections, Strategy and Governance.

Many of the volunteer positions at the SOA include participation in one of the Board-appointed committees, which include Education, Research, Strategy and Leadership. The Education group, for example, offers a multi-level structure in Curriculum, Exam and e-Learning Development. This structure offers both entry-level positions as well as leadership pathways for volunteers who want to advance within their volunteer career or seek an elected position on the SOA Board of Directors. There are even opportunities for new FSAs to begin as exam item writers

and exam graders as soon as they receive their FSA!

While participation on Board-appointed committees requires the knowledge and expertise of an FSA, there are many volunteer opportunities for ASAs as well, particularly in the Professional Interest Sections. Besides the networking opportunities found here, many subcommittees, research team members, article writers and presenters at seminars and meetings are drawn from our section members. In addition, serving on Section Councils offers another leadership pathway within the volunteer structure of the SOA.

It is the contributions of our many talented volunteers that enable the Society of Actuaries to provide an extensive variety of information and services to its members. The SOA would like to take this opportunity to thank all of our volunteers for their hard work and dedication—it is these volunteers who keep the coffee pot full and keep the SOA running! **A**

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**Sheree Baker** is the director of Governance at the Society of Actuaries. She can be contacted at [sbaker@soa.org](mailto:sbaker@soa.org).

# PRODUCT TAX SEMINAR

SEPTEMBER 13–14, 2010, WASHINGTON, D.C.

This unique seminar investigates all aspects of life insurance, annuity and long-term care product tax compliance. This is **your opportunity** to be brought up-to-date on the recent changes in the qualification requirements and a host of product tax issues beyond compliance with **IRC Section 7702 and 7702A**.

Learn more at [soa.org](http://soa.org).



# PROFESSIONAL GROWTH OPPORTUNITIES

**THERE HAS BEEN A LOT OF EMPHASIS** on communication at the SOA this year. President Mike McLaughlin has made enhanced communication between the SOA and its members one of his main objectives. This month's SOA at Work column not only highlights some of the ways the SOA is communicating with its members, but also how we're communicating with the media to promote actuaries and the profession. We are also committed to assisting you with communicating with other actuaries through the SOA LinkedIn group.

On page 45 there is a list of recent successes in getting actuaries top-tier media coverage. The SOA considers this such an important initiative, three Viewpoints & Visibility Teams were created. The three teams consist of experts in the fields of ERM, health care and retirement. The teams were created for the sole purpose of making sure actuaries are seen as the leaders they truly are.

Equally as important are the efforts the SOA is making to communicate with its members. Evidence of these efforts can be noticed in the new SOA homepage. It's been updated and upgraded to be more user-friendly, allowing you to find what you're looking for more easily. Be sure to check it out at [SOA.org](http://SOA.org). You will also find efforts of increased communication through the SOA's LinkedIn group, the SOA blog, SOA President Mike McLaughlin on Twitter, our first-ever Interactive Leader Seminar webcast, and our Meet the President sessions at SOA meetings. We're working now to create our new Member Advisory Panel to give us yet another way to connect with you. All of this is evidence of our commitment to strengthened communications.

Finally, we want to remind you that CPD attestation begins this November. Not only is this an important step in maintaining and strengthening your actuarial and business skills, it is also a perfect opportunity to communicate to your employer how you are increasing your value. **A**

— SOA Executive Director Greg Heidrich

## SOA IS LINKEDIN

The SOA is proud to announce the addition of an SOA LinkedIn group. LinkedIn is a business-oriented professional networking tool to help exchange information, build contacts and share information in a private forum. The SOA LinkedIn group is designed to help members network with each other as well as

across practice areas. It's easy to join and it's free! You must have a LinkedIn profile. To create a profile, visit [LinkedIn.com](http://LinkedIn.com). Once you have created a profile, search groups for Society of Actuaries and submit your request to join. So get LinkedIn today and join the discussion! **A**

## CPD ATTESTATION

Keep your eye on your e-mail in-box! In just a few short months you'll be receiving an e-mail that contains a link that will allow you to begin attesting your CPD. The SOA's CPD

Requirement took effect on Jan. 1, 2009 and attestation will begin this November. If you have any questions, please visit [www.soa.org/cpd-faq](http://www.soa.org/cpd-faq). **A**

## JOIN THE CONVERSATION ON THE SOA BLOG

Have you visited the SOA blog? If not, you're missing conversations about such topics as new retirement system designs, the Nominating Committee's work, the SOA's first Interactive Leader Seminar webcast and health reform opportunities. Get in on the conversations today. Visit the blog at <http://blog.soa.org>.

## 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:**

### Most Health Plans Don't Have Mental Parity: Expert

SOA staff fellow Sara Teppema quoted in the *National Underwriter*. Visit [www.lifeandhealthinsurance.com](http://www.lifeandhealthinsurance.com)

### A New Plan for Valuing Pensions

Members Jeremy Gold and Rick Roeder quoted in *The New York Times*. Visit <http://www.nytimes.com/2010/06/25/business/25accounting.html>

### Stress Tests Seen as "Too Narrow"

*The Wall Street Journal* blog includes member Sim Segal. Visit <http://blogs.wsj.com/brussels/2010/06/18/stress-tests-seen-as-too-narrow/>

### Trading Down: Can It Still Bankroll Your Retirement?

*The Wall Street Journal* noted an SOA study on retirement planning. Visit <http://online.wsj.com>. Search word: retirement planning

### The Hard Times Guide to Retirement

*The Huffington Post* notes the SOA's study on retirement planning calculators. Visit [www.huffingtonpost.com](http://www.huffingtonpost.com). Search word: Manisha Thakor

### Worried About Retirement? Not so Much ...

Anna Rappaport spoke with *FOXBusiness.com* about retirement issues. Visit <http://www.foxbusiness.com/personal-finance/2010/06/01/worried-retirement/>

### Experts Weigh in on Older Americans and Work

Member Steve Vernon is quoted about engagement with life during one's golden years. Visit [www.secondact.com](http://www.secondact.com). Search word: older Americans and work

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

## PROFESSIONAL DEVELOPMENT OPPORTUNITIES

### INTERNATIONAL FINANCIAL REPORTING FOR INSURERS: IFRS AND U.S. GAAP

August 30–September 1  
Hong Kong

### PRODUCT TAX SEMINAR

September 13–14  
Washington, DC

### VALUATION ACTUARY SYMPOSIUM

September 20–21  
Chicago, IL

### DI & LTC INSURERS' FORUM

September 22–24  
Orlando, FL

### SOA 2010 ANNUAL MEETING & EXHIBIT

October 17–20  
New York, NY

### BRIDGING THE GAP: A PRIMER TO THE EQUITY-BASED INSURANCE GUARANTEES CONFERENCE

October 31  
New York, NY

### EQUITY-BASED INSURANCE GUARANTEES CONFERENCE

November 1–2  
New York, NY

View all Professional Development opportunities by visiting [www.soa.org](http://www.soa.org) and clicking on Event Calendar.

# SOA 2010 Elections!

## Let your voice be heard!

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The **SOA 2010 election is just around the corner!** Let [SOA.org/elections](http://SOA.org/elections) be your resource for all information pertaining to the 2010 elections. **Online voting** for the election will be open 24 hours a day from August 9 until the polls close on September 3 at 5:00 p.m. Central time. **Any elections questions** can be sent to [elections@soa.org](mailto:elections@soa.org).

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At [SOA.org/elections](http://SOA.org/elections) you can:

**Get to Know the President-Elect and Board of Directors Candidates**

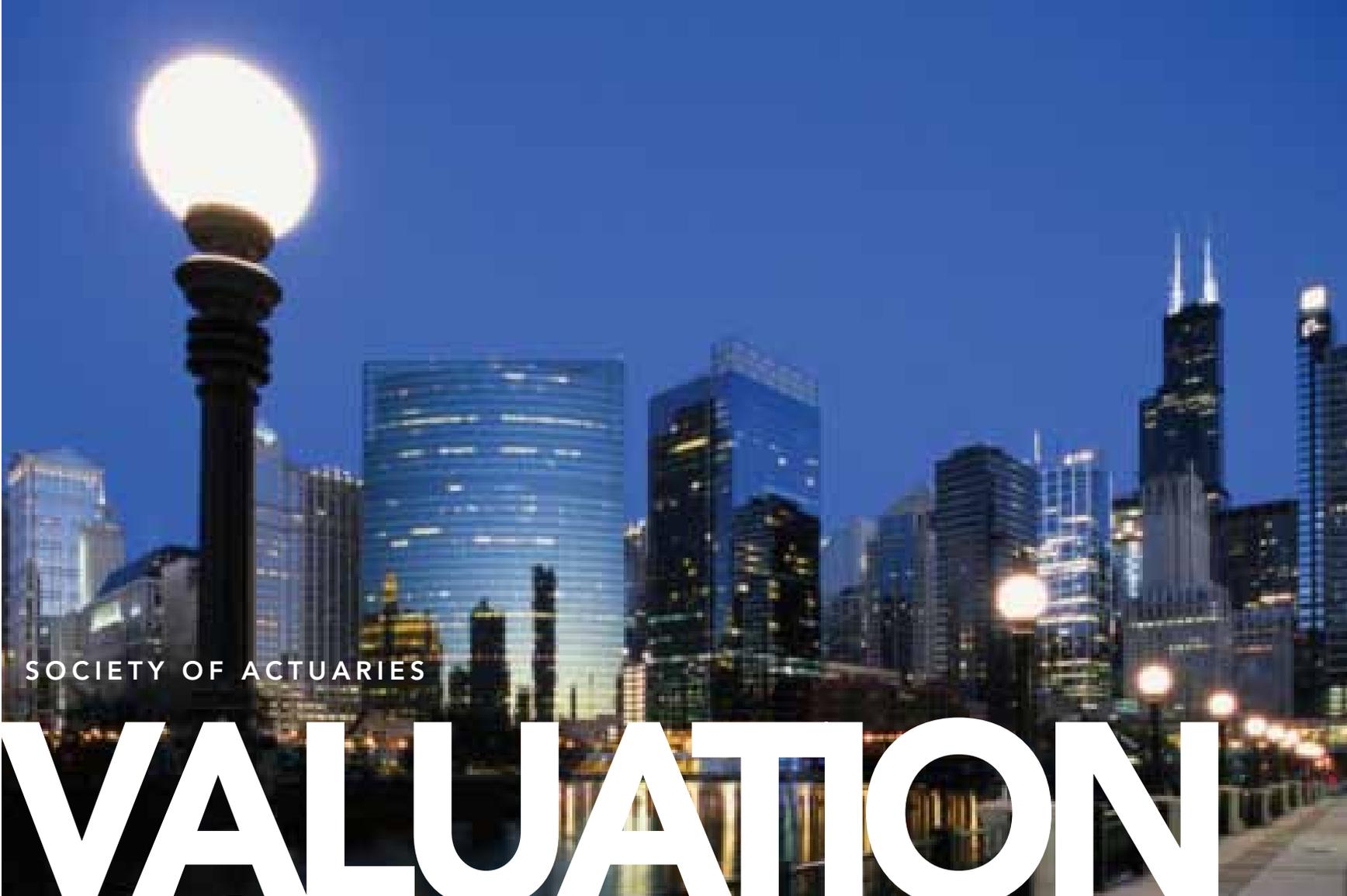
- Read candidate biographies
- Watch President-Elect candidates' video-recorded campaign speeches and a roundtable discussion moderated by Immediate Past President Cecil D. Bykerk.
- Review the candidates' individual answers to a strategic question.

**See a Separate Ballot for Section Council Positions\***

- Read Section Council candidates' biographies
- Review Section Council candidates' response to a leadership question

## Let your voice be heard! Please vote!

\*It is important to remember that Section Council elections have different constituencies from the election for Board of Directors. Section members must be current with their 2010 dues by June 3, 2010, in order to vote in this election.



SOCIETY OF ACTUARIES

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Equity-Based Insurance Guarantees Conference**

Oct. 31 (half day), New York, NY

**Equity-Based Insurance Guarantees Conference**

Nov. 1-2, New York, NY

This seminar and primer are designed to give professionals with limited-to-moderate experience an understanding of how to better quantify, monitor and manage the risks underlying the VA and EIA products.

Learn more at [www.soa.org](http://www.soa.org).

