SOCIETY OF ACTUARIES

The Actuary

JUNE/JULY 2010 VOLUME 7 ISSUE 3

Retirement Software

EAT DOTS

Avoid GHOSTS

THE COST OF HEALTH CARE REFORM

The third part of the series

SOLVING THE DERIVATIVES MYSTERY

Dark secrets brought to light

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Editorial

CONFESSIONS OF A FACEBOOK JUNKIE:

Actuarial Science Clashes With Pop Culture

BY RONALD POON-AFFAT

HI, MY NAME IS RONALD POON-AFFAT and I am a Facebook junkie; I check my page multiple times a day, including when I am at work. This got me thinking. Have I developed Facebook dependency issues or am I just "ahead of my time?" As a trained actuary, I decided to get to the bottom of this conundrum by initiating a survey.

My first sample was my friends. I quickly discovered that my friends lie on opposite sides of the fence. There are those who think Facebook is pretty cool and those who think it's for morons. But hey! Even Dr. Sheldon Cooper's character ("Big Bang Theory") is on Facebook, so there must be some attraction—even for the intelligentsia.

A profession can be defined as a body of people in a learned occupation. So what happens if this body becomes divided into those who Facebook and those who don't? As Lincoln famously discoursed, "A house divided against itself cannot stand."

Even with their present impressive number of users, social networking sites are only now getting started. Facebook was started in February 2004 and now has more than 400 million active users. Fifty percent of active users log on to Facebook on any given day. More than 35 million users update their status each day. More than 60 million status updates are posted each day and, most importantly, more than 5 billion pieces of content (Web links, news stories, blog posts, notes, photo albums, etc.) are shared each week. And by the time that you read this editorial, all of these numbers will be a lot bigger.

Just by looking at these numbers, I would argue that to ignore the Facebook phenomenon would be akin to ignoring e-mail/blackberry/Internet/cell phones. Anyone ignoring these standard business tools would be immediately classified as a Luddite. But enough of name calling. Could being on Facebook (or not) really have a negative impact on the professional development of actuaries as they progress through their career?

My second survey was a subset of Facebook actuarial friends who qualified around the same time that I did (1991). They were unanimous in denouncing Facebook as being entirely frivolous, and bear in mind these actuaries were all on Facebook.

Not deterred by this lack of enthusiasm from my initial sample (and driven by the fact that I was committed to writing an editorial), for my third and final survey, I reached out to an entirely different cohort; the Hawkeyes from the University of Iowa's Actuarial Science Club. I created a simple sample survey and distributed it to the faculty. The results are as follows.

In all there were 36 respondents:

- Ninety-seven percent are on Facebook.
- Seventy-two percent check it at least once a day (44 percent make multiple visits).
- When I asked how many actively used Facebook in a professional capacity, 92 percent said they did. This can be divided between light users—81 percent (less than 25 percent of the time spent on work) and medium users—11 percent (between 25 percent and 50 percent of the time spent on work).
- When asked what they thought about the "future professional usage" after leaving college, the 11 percent figure (mentioned in the point above) jumped significantly to 47 percent.
- Forty-two percent thought Facebook would definitely be positive for the image of the profession; with 47 percent saying "maybe."

THE SOA IS EMBRACING SOCIAL MEDIA IN SEVERAL FORMS. VISIT THE SOA HOME PAGE TO SEE ALL OUR VARIOUS TOOLS: SOA BLOG, SOA LINKEDIN, SOA PRESIDENT'S TWITTER ACCOUNT.

- The top five areas in which Facebook could have an impact on their professional careers were (in order): career development, image of the profession, reaching out to a global actuarial network, keeping up to date with regulation, and continuing professional development.

It would appear that the not surprising conclusion from these nonscientific surveys is that there is definitely a generation gap regarding the potential of Facebook playing an integral part of the future development of the profession.

Right now only 10 percent of U.S. companies allow access to Facebook. Social networking sites have been unjustly characterized as "notworking" sites as opposed to professional networking. It's only when companies see the value of keeping their employees plugged into Facebook that we will really start to see the emergence of professional benefits.

I would like to compare sharing of information via Facebook to a Saturday night dinner party which includes actuaries and their nonactuarial spouses. Information on family/business/politics/sports/leisure is seamlessly interspersed throughout the evening. A group of actuarial Facebook friends may start off with frivolous banter, but I reckon that it will not take long for actuarial issues to start popping up.

There can be little doubt that Facebook is a catalyst that's accelerating the frenetic pace of the information highway. I strongly believe that it will serve to revolutionize the way we update and broaden our knowledge; the way we collaborate within the actuarial profession and with others; and the way we bring our knowledge and experience to the application level in the marketplace. We all need to embrace this new communication tool.

Ronald Poon-Affat

Scott McNeely may have said it best and most simply, "When people are networked, their power multiplies geometrically." A

Ronald Poon-Affat, FSA, FIA, MAAA, CFA, is a Board Member of the SOA and an Executive Director of Tempo Assist, a Sao Paulo-based health conglomerate.

He can be contacted on Facebook under Riskmaster Ron; e-mail address: *rpoonaffat@yahoo.com*.

Visit *http://www.surveymonkey.com/s/SSGSWWP* if you wish to participate in the Facebook survey mentioned within this article. Results will be published within the next edition.

SOA '10 ELECTIONS!

Mark your calendar and let your voice be heard!

CALLING ALL ELIGIBLE VOTERS

This year, elections open **August 9** and will close **September 3.** Complete election information can be found at ***www.soa.org/elections.*** Any election questions can be sent to ***elections@soa.org.***

Letter From The President

NO BOUNDARIES:
The SOA as a Global Organization—Serving All Members

BY MIKE MCLAUGHLIN

SOA MEMBERS span the globe, from Andorra to Zimbabwe and almost everywhere in between! Currently, about 11 percent of our members live outside of North America. And Asia—especially China and Hong Kong—is our fastest-growing segment of membership outside of North America.

The SOA is truly an international organization. We have 68 exam centers outside of North America (in addition to special exam centers we set up), which demonstrates the great interest candidates worldwide have in becoming a member of the SOA!

As the largest actuarial body in the world, we have responsibilities to support and network the profession worldwide. Not only does this strengthen the profession and raise the profile of actuaries as a whole, it gives us the opportunity to learn from others.

UNITED IN OUR DIVERSITY

I was fortunate to have been able to attend the International Congress of Actuaries meeting in South Africa back in March. "United in our diversity" was the theme of the event, and it certainly was a diverse group representing our profession with 1580 people from 101 countries meeting, learning and sharing their knowledge and experiences!

While we are a diverse profession, there seems to be more similarities than differences among actuaries worldwide.

At the conference, all actuaries were encouraged to speak up! The keynote speakers encouraged us as a profession to make our voices heard on matters of public interest. This is not just a U.S. or Canadian issue; it is important for members of the profession worldwide. Our training makes us well qualified to communicate and educate the public around issues such as mortality, social insurance and risk. And we are learning that it is just as important for us to be able to *communicate* our solutions as it is to develop the solutions themselves! After all, it's like the old saying, if a tree falls in the forest, and there is no one there to hear it, does it make a sound?

> … it is just as important for us to be able to communicate our solutions as it is to develop the solutions themselves.

ENTERPRISE RISK MANAGEMENT—A GLOBAL OPPORTUNITY

The SOA has taken the lead on moving the profession into enterprise risk management, and this has become a key initiative for the profession worldwide. Actuaries globally are realizing that our skills extend beyond insurance and pensions. In fact, the International Actuarial Association has begun forming its own risk management section in order to explore and share information on ERM worldwide.

I can't mention enterprise risk management without also mentioning the global CERA credential. Now that the CERA has been launched as a global risk management credential, the CERA will increase the visibility and influence of actuaries within the international ERM sphere, leading to a more diverse and prominent actuarial profession. It will promote the development of more actuaries around the world with specialized training in enterprise risk management. Having a global credential also sends a strong message to employers and candidates that actuaries' skill set provides insight and risk management expertise, especially in this time of increased globalization. The SOA has set a

great example, and now actuaries around the world will benefit from our experience.

SERVING *ALL* MEMBERS

SOA members outside of North America face certain challenges, such as the inability to travel to in-person SOA meetings and professional development events. (And we recognize that this can even be an issue with members in the United States and Canada, with travel restrictions imposed by employers, the self-employed, those who work for smaller entities and the unemployed.)

We are working to better serve **all** members, especially in the area of professional development. We are creating more low-cost, high-availability professional development opportunities, such as e-learning, webcasts and virtual sessions broadcast live from our in-person meetings.

The SOA will be offering at least 50 webcasts and virtual sessions this year. Virtual sessions were offered from the Life and Annuity Symposium, and they will be offered from the Health Meeting, Valuation Actuary Symposium and the Annual Meeting. In addition, new e-learning courses will also be available, including professionalism topics.

For the growing segment of our membership in Asia, we are working to develop e-learning and webcasts in Mandarin, as well as produce events on topics specific to the region. We have begun translating select publications and key articles in Mandarin for this audience. The SOA's joint office in Hong Kong has been in place since 1998 and works to support and provide services to members in the region.

In addition, the SOA's International Section provides a wealth of information on the experiences of members worldwide and global aspects of the profession. The International Section also has an Ambassador Program to assist in implementing the SOA's international programs, identifying and developing subjects of international interest, identifying special needs of SOA members in different areas of the world, helping the actuarial profession to grow in underdeveloped areas, and linking the SOA with national actuarial organizations and actuarial clubs.

Mike McLaughlin

The SOA has recently partnered with our fellow actuarial organizations to allow us to learn from each other's practices and provide better services to members.

Looking to the future, the SOA has a key initiative directed toward developing an international membership strategy, which will address how we will pursue growth in international markets as well as what services matter most to our overseas stakeholders and how to best provide those services.

GLOBAL PARTNERSHIPS

The SOA has recently partnered with our fellow actuarial organizations to allow us to learn from each other's practices and provide better services to members.

The SOA has collaborated with the Institute of Actuaries of Australia to produce the second edition of the book, *Understanding Actuarial Management: The Actuarial Control Cycle*. The book will be a valuable resource for actuarial professionals around the world.

We have also been partnering with the U.K. Actuarial Profession to benchmark the education systems of the SOA and the U.K. profession. The concept arose from discussions in which both organizations were looking to find ways to enhance value and service as well as improve processes. The purpose was to develop objective measures of quality in the education of actuaries and also to explore ways to offer more member value by learning from one another and adopting improved processes. The measures developed will, over time, provide detailed insights into how to improve processes in terms of fitness for purpose, cost effectiveness and quality of service to members.

Viewing ourselves as a global profession and a global organization benefits all of us! After all, as Harold R. Lawson, SOA president from 1966-67 once said, *"Ours is a scientific profession, and science knows no national boundary lines."*

Our profession has a great deal to contribute to the global conversation on risk management, retirement planning, health care, social insurance and a vast range of analytical matters. By working together, we will ensure that our voices as a profession are heard. A

Mike McLaughlin, FSA, CERA, MAAA, FIA, is president of the SOA. He can be contacted at *mmclaughlin@soa.org*.

Letter to the Editor

A LETTER AND A CONVERSATION

In "The Many Stages of Risk" (Dec. 2009/Jan. 2010 issue of *The Actuary*), Dave Ingram decries a commonplace two-stage view of risk by which there is a "normal" stage and a "dreadful" stage, separated by a cliff—a point at which means and standard deviations change suddenly, seemingly with no continuity. He proposes to replace this with a "cyclical" view, in which the financial system goes through cycles that are continuous, like a sine wave. He describes four stages of the price cycle, involving (1) stable prices, (2) rapidly rising prices, (3) peak prices, and (4) rapidly falling prices, using the Case-Shiller Home Price Index as an illustration.

I think the idea that prices and risk go through cycles is reasonable. The problem with his presentation is that he describes the phase during which prices rise rapidly as the "low risk" phase, and the phase in which prices reach a peak as the "high risk" phase, where nothing separates these two phases but an inflection point which, in practice, can only be detected after the fact—"after it is too late." Consequently, his analysis presents risk as if it goes off a cliff suddenly and with no continuity, as prices transition from concave upward to concave downward, rather than changing in a continuous cycle the way that prices do.

I think he is mistaken in calling the phase during which prices rise rapidly the "low risk" phase. If prices used to be stable but now are rising rapidly, then their realized (historical) standard deviation is also rising. Assuming no change in surplus for the owner or insurer of these assets, the increase in standard deviation results in an increased probability of ruin, making this an environment of increasing risk, not low risk.

It is true but irrelevant that, during this phase, those who take the most risks also reap the most rewards. Risk is the flip side of opportunity, so higher risks go hand in hand with greater opportunities for reward. Increasing rewards are merely symptomatic of increasing risk, not an indication that risks are low. The real "low risk" environment is the one in which prices are stable.

Yours truly,
Jesse Hobbs, FSA, American General Life & Accident

INGRAM RESPONDED DIRECTLY TO HOBBS. THEIR E-MAIL CONVERSATION IS REPRODUCED IN THE FOLLOWING PAGES.

THE INGRAM/HOBBS E-MAIL CONVERSATION

Dear Jesse,

Thanks very much for your comments.

Perhaps the difference in our characterizations is the assumed holding period.

My discussion relates to risk taking during the period that expires during that period. I did not say that and I realize now that I should have.

I think that your interpretation might presume a longer, multiperiod holding of the risk.

So in the example of the home real estate market, during the low risk (0) stage, no investments make losses.

We all saw that.

It does contradict the maxim that says that high reward MUST go with high risk.

You see, my point is that there is no one out there enforcing that maxim. So if you insist on following it, even when it is a Stage 0 market, you will miss the high-profit, low-risk opportunities.

Risk is the highest when everything that you do makes a loss. If you use a Stage 1 risk model during that period, you will keep taking bad risks because you will underestimate them.

Another point that perhaps I did not make clear is that you MUST be careful to re-evaluate your positions when the Stage changes. Otherwise the "low" risk investments will prove themselves to be "high" risk just as you suggest.

Your comments are extremely helpful. The concepts that I am trying to tell about are still being developed and so there is a good chance I have said something wrong. This is my fast answer. (From my BlackBerry on the train home on a Friday night.) I will reread your comments more slowly and respond further if anything additional comes to mind, including a reversal of my opinions.

Regards,

Dave Ingram, FSA, CERA, MAAA, Willis Re

Dave,

I had thought of saying something about the time horizon, and I think this is what you're getting at by mentioning the holding period. It certainly is worth considering.

As long as you think you're in a low-risk environment and every risk you take is making money, you are going to continue to hold your position, aren't you? If you sell one position, or if it matures, then you'll use your capital to take another one, since you believe that every risk you take will be rewarded. You will only stop doing this once you realize that risks aren't low anymore.

You did not disagree with my characterization of your transition from "low risk" to "high risk" environment as taking place at a point of inflection. But of course, your graph showed 30 points of inflection in the "stable price" environment that meant nothing, and one point of inflection in the "rapidly rising price" environment that also meant nothing. How long after the point of inflection that means **something** will you realize that you are now in a "high-risk" environment? How much can things change before you realize that this change is for real?

While you're riding home on the train, you might think of the visible horizon as how much track ahead the engineer can see, and the risk horizon as how much track ahead the train needs in order to stop, assuming the engineer slams on the brakes right now. I think you'll realize that the risk horizon often exceeds the visible horizon, and that's why train wrecks occur. The recent turmoil in the financial markets was certainly a train wreck. It happened because people believed they could see further ahead than their risk horizon.

My position is that the more "price momentum" appears to increase, the more the risk also increases—like on a train. I take "price momentum" to be more of a psychological concept, rather than rooted in reality. Prices go up, of course, but do they really have momentum that will carry them up inexorably further, or isn't it just a matter of people's expectations? Once these expectations get rooted in people's minds, they give the future "visibility." Once you truly believe that prices are going up, what will it take to persuade you otherwise?

That's why it seems best to stick with objective probabilities of ruin as measures of true risk. The apparent safety that comes with "price momentum" is illusory.

Jesse

Jesse,

Yes. Your points are all correct.

But my point is that if you are always worried about the worst case catching up with you, then you will miss out on opportunities during the best times.

I am not convinced that it is impossible to see the signs of changes to the environment between the stages. My suggestion is that if you expect those changes and look for the signs, then you are more likely to be prepared.

Dave

Dave,

I'm glad you agree with me. I was only pointing out the increasing risk that goes with rising prices, and I was not recommending that a person not do it. To make profits you have to take risks, and bigger profits generally require bigger risks, not smaller ones. At any rate, that's what we learned for the exams on Portfolio Theory and the Capital Asset Pricing Model.

I think that risk is cyclical just the way that prices are cyclical, but when I read your article closely I realized that you never actually said that. You argued against a two-stage view of risk, but it wasn't clear if you were going to replace it with a four-stage view, or what.

Jesse

Jesse,

No, as I said in my first response, increased risk and increased reward do not necessarily go together.

What I was agreeing with is that it is difficult to stop taking low risk profits and that leads to sliding into taking high risk profits.

What I am trying to say is in direct conflict to CAPM + MPT.

Dave

Dave,

Well, that certainly clarifies things.

I can't say that my experience bears out your point of view. I've heard a lot of people say retrospectively, "The easy money has already been made," who weren't calling it easy money when the same investment was viewed prospectively. That's why they say that hindsight is always 20-20.

Occasionally, I hear someone say prospectively, "This is a one-way asset," meaning there is only one direction the price of this asset goes, but most of the time those people were about to receive a rude awakening.

Jesse A

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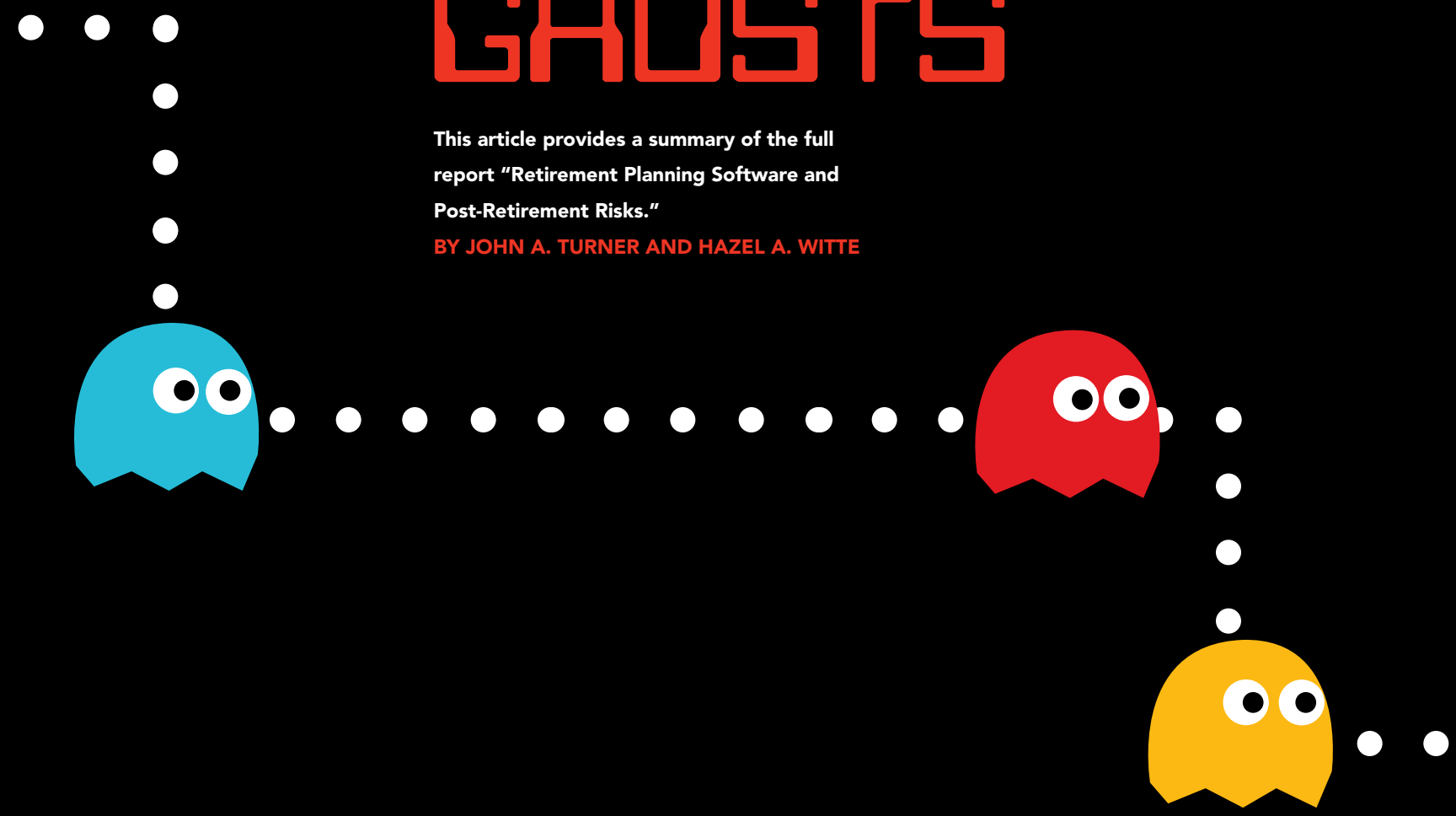
RETIREMENT SOFTWARE

EAT DOTS Avoid GHOSTS

This article provides a summary of the full report "Retirement Planning Software and Post-Retirement Risks."

BY JOHN A. TURNER AND HAZEL A. WITTE



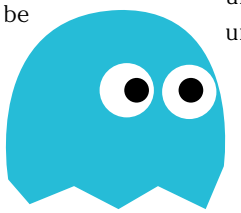
RECENT RESEARCH HAS FOUND THAT TODAY'S RETIREMENT SOFTWARE PROGRAMS LACK A LITTLE BYTE.

Retirement planning software packages used by consumers and financial professionals offer individuals the opportunity to do longer term planning far beyond what could be done without such tools. However, they generally fall short in their objective to provide adequate analysis of post-retirement risks. This may be because of the difficulty of the issues involved. Software packages need to better address key planning drivers such as rates of return, life expectancy and the length of the planning period, Social Security benefits and age at which Social Security benefits are taken, housing, and survivor's benefits.

SOME HISTORY

Retirement planning software tools offer individuals and advisors the opportunity to perform a range of calculations to help them in retirement planning. Managing retirement income in the post-retirement period is challenging because there is a wide variety of potential risks. Approaches to managing these risks are often not integrated across risks.

We report here on a review of a selection of software programs commonly used by consumers and financial advisors from a study sponsored by the Society of Actuaries and The Actuarial Foundation (Turner and Witte 2009). That study assesses the extent to which retirement planning programs help users understand post-retirement risks. A path-breaking 2003 study sponsored by the Society of Actuaries, InFRE and LIMRA (Sondergeld, et al. 2003) served as a baseline. While we find improvements in the ease of use of programs (online Web interface, easy input screens) and use of Monte Carlo analysis to highlight risk, we also find that some of the same issues and weaknesses identified in the 2003 study continue today. Some of the remaining problems may reflect a lack of consensus on how to deal with some issues, and some may reflect the difficulty of addressing some issues. Nonetheless, improvements can be made that would address these issues, as suggested in this article.



In 2008, the Society of Actuaries published *Managing Post-Retirement Risks: A Guide to Retirement Planning* that identifies risks, discusses their predictability and provides information on how they can be managed. It is important to note that often experts do not agree on how to manage specific risks. Two important conclusions from that study and other work help explain the results of this study:

- The issues are complex.
- Experts do not agree on the right solutions.

Therefore, it is not surprising that different software provide different results, and that there is a range of practice.

We examined 12 nonrandomly selected retirement planning software programs. Five of the programs are available for free over the Internet (identified in the study as consumer programs). One program is available to consumers for a fee, and six programs are designed for use by financial planners for their clients (identified in the study as professional programs).

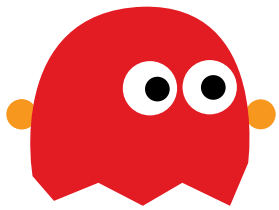
MAJOR FINDINGS

A common problem we found is that programs use rates of return that are too high, either due to program defaults or likely user error by unsophisticated users. When that is combined with user input for life expectancy, and the tendency of individuals to underestimate life expectancy, the result is understating the amount of resources needed for retirement, particularly in consumer programs. Many programs do not recognize heterogeneity across users in life expectancy, and consequently programs may determine the length of the planning period using life expectancies that are too high for many individuals. Even at older ages, there are considerable differences in life expectancy across demographic groups.

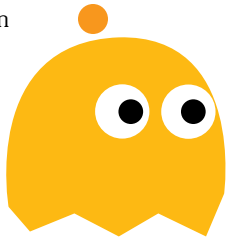
Ongoing issues of financial planning software post-retirement include the following, some of which can be overcome with informed inputs, which are more likely in the use of professional programs:

1. Results and outputted information vary widely across programs.

2. Consideration of the planning period and the handling of longevity risk vary considerably among the programs.
3. In terms of planning, there is often a pro-equity and pro-risk bias, particularly in consumer software.
4. Consumer software generally does not take into account the results of behavioral finance studies indicating that many users have a low level of knowledge about financial issues. For instance, certain studies suggest that individuals tend to overestimate rates of return and underestimate life expectancy, a combination that would lead to having inadequate resources in retirement when this information is provided by unsophisticated users.
5. The failure of programs to take into account fees on investments overstates net returns and may result in rates of return that are generally not attainable.



6. Programs generally overstate gross rates of return received by individuals because individual investors tend to underperform the market due to the timing of their investments.



7. With the exception of financial market risks, most programs do a poor job of evaluating the risks that retirees face and, in fact, often obscure potential risks.
8. Most software programs inadequately estimate the level of Social Security benefits users are entitled to, and at the same time they do not direct users to the Social Security administration website, where they can obtain an accurate benefit estimate at no charge. The age at which Social Security benefits are taken is an important decision for most people, and could be better addressed in most programs.
9. Software programs usually do not evaluate the possibility of annuitization (converting assets into lifetime income annuities) as an option to reduce risk, nor do they focus on different options for timing of payouts.
10. There is inconsistent treatment of housing as an asset for use in financing retirement consumption.
11. The programs generally do not take into account the risk of retiring earlier than expected, which is significant due to unexpected poor health of the worker or dependent or due to job loss, compounded by the difficulty that older workers often have in finding new employment.
12. Programs generally need to better address the income needs of survivors and issues for couples.
13. Programs, particularly consumer programs, should improve checking for input errors.

FURTHER OBSERVATIONS

Suitability Statements: Different people have different issues and considerations in retirement planning, and software that works well for a specific situation will need to address the relevant issues. However, generally the software programs do not state for whom they are suitable, though some programs indicate that they are suitable for individuals with at least a stated minimum level of assets.

... GENERALLY THE SOFTWARE PROGRAMS DO NOT STATE FOR WHOM THEY ARE SUITABLE. ...

Problems with Extreme Events: The current financial crisis exposes weaknesses in financial planning software. The programs we examined generally are unable to analyze the risks of variable rate mortgages or large declines in housing prices. Extreme stock market declines seen recently are underrepresented in the Monte Carlo models. They do not consider the possibility of a large stock market and housing market decline occurring at the same time that a person nearing retirement has lost his or her job. In short, they underrepresent, or fail to represent, extreme events.

For users anticipating the possibility of these events, the software permits the running of what-if scenarios to investigate the effect of such events. The tools, however, should help

users identify risks, rather than relying on the sophistication of the user.

Overall, rather than focusing on greater detail for issues that are not important to most individuals using the programs, we recommend that programs focus on better treatment of key inputs: longevity, rates of return, Social Security benefits, housing, and target consumption, including target consumption for survivors. The issues of importance will vary depending on the target population of the programs.

Longevity Risk and the Length of the Planning Period: There are large differences in the treatment of longevity risk and the planning period. While focusing on longevity is central to the length of the planning period, there is no agreement about the right way to handle longevity in terms of determining a planning period and inadequate focus on making assets last a lifetime. Most of the software did not analyze products and solutions making money last a lifetime, such as annuities.

Programs that set the length of the planning period the same for everyone do not recognize the large amount of heterogeneity in life expectancy across the population. However, programs that allow the user to choose the length of the planning period do not recognize the lack of knowledge among many users as to life expectancy. A program that allows the user to choose the length of the planning period but provides assistance in doing so, such as providing a longevity calculator based on age, gender, and health risks, may be the best approach.

One approach to dealing with the length of the planning period would provide information as to the adequacy of resources if death occurs at different ages. For example, in a deterministic framework the output could indicate that a particular individual would have adequate resources if death occurred at age 80 but not if it occurred at age 90 or later. For a couple, the output could indicate that they had adequate resources if death of the surviving spouse occurred at age 90 or earlier but not at age 95 or later. This approach would require deterministic programs to automatically run scenarios with death occurring at ages 80, 90 and 95.

A COMMON PROBLEM WITH MANY OF THE PROGRAMS EXAMINED … IS THAT THEY USE RATES OF RETURN THAT ARE TOO HIGH.

Rates of Return: A common problem with many of the programs examined, particularly consumer programs, is that they use rates of return that are too high, either due to user or program specifications. First, historical rates of return may be a poor guide for future rates of return, which may be lower. Second, market rates of return exceed the rates of return individuals receive due to investment fees they pay. Third, individuals tend to underperform the market because of errors they make in investing, such as selling (or not buying) when the market is low and buying when it is high. Fourth, the rates of return used often do not take into account taxes. In some programs, this issue is dealt with by calculating taxes separately, while in others taxes are ignored. Fifth, other studies have shown that individuals tend to overestimate future investment returns. Sixth, it appears that most stochastic programs underrepresent the risk of large stock-market declines. Seventh, the deterministic programs generally do not reduce expected rates of return as a way of taking into account risk. In a deterministic setting, an expected rate of return of 10 percent is easily perceived as a risk-free rate of return of 10 percent.

The programs commonly advise users to consider increasing the risk in their portfolios if they face a financial shortfall, generally ignoring that the user would face an increased risk of market volatility and downside risk as well as upside potential.

While changing portfolios is often recommended, either because of an asset shortfall or because the portfolios are inconsistent with the user's self-reported risk aversion, the programs generally do not take into account the possible tax consequences of doing so with a taxable account, or even mention that as an issue to consider.

Social Security: The treatment of Social Security benefits generally could be improved. Several programs set the cost-of-living increase for Social Security benefits in payment at less than the inflation rate. This level of partial indexation is counter to the legal requirement that Social Security benefits be inflation-indexed.

Some programs calculate Social Security benefits based on the person's birth year, expected retirement age, and a single year of earnings. However, Social Security administrative records reveal many different pay patterns over the lifetime. For this reason, a model of pension outcomes that assumes all workers have a common earnings profile is unlikely to capture any user's Social Security benefits. Instead, programs should integrate with the online calculator provided by the Social Security Administration, where users can calculate their Social Security benefits based on their own earnings record or at least advise users of the availability of the more precise estimate.

CONCLUSIONS

Long-term planning is both important and difficult for individuals. Financial planning software opens up new vistas and makes better planning possible.

But developers of financial planning software face daunting challenges. First, the problem of creating a program that can address the wide range of issues individuals face is exceedingly complex. Second, on many of the key issues, such as the level of replacement rates, experts do not agree as to the appropriate advice. The financial planning software programs represent a huge amount of programming and design effort and in that sense are a remarkable achievement. They have the possibility of providing users better information about their financial future. At the same time, we see reason to expect that the programs will be greatly improved in the future. For example, all programs as outputs could automatically provide results for three life expectancies so that users could evaluate the range of possible outcomes and use that to inform their planning process. A

We have received valuable comments from Steven Siegel, ASA, Anna Rappaport, FSA, and members of the Program Oversight Group.

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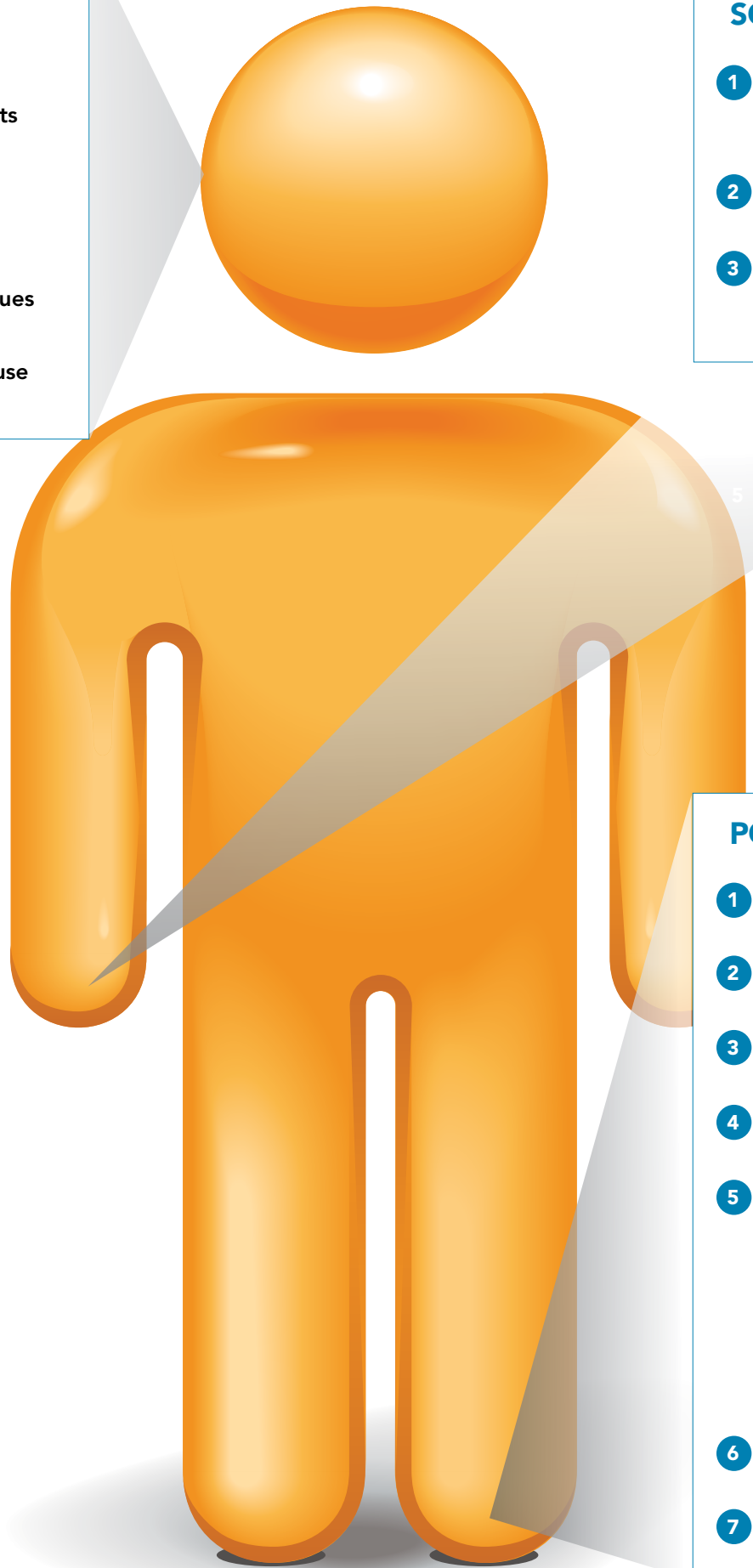
COST CONTROL/EFFICIENCY

DEFINING THE PROBLEM

1. Claims, not administration, costs
2. Some increase unavoidable
3. Delivery of care issues
4. Focus on efficient use

PARAMETERS FOR SOLUTIONS

1. Manage spending to get value
2. Total population view
3. Price controls, alone, won't work



POTENTIAL SOLUTIONS

1. Personal Responsibility
2. Public Health Initiatives
3. Provider Delivery Innovations
4. Reduce Unnecessary Services
5. Provider Payment Reforms
   - Price Transparency
   - Quality Information
   - Alternative Fee Schedules
   - Bundled Payments
   - Alternative Staff
6. Reduce Errors
7. Health Information Technology

Responsible HEALTH CARE REFORM

PART 3: COST CONTROL AND EFFICIENCY

BY MAC MCCARTHY AND DAVE TUOMALA

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

In the February/March 2010 issue we gave a high level overview of the issues as discussed at the November 2009 CCA annual meeting, breaking them down into Access, Cost and Funding aspects. In Part 2, in the April/May 2010 issue, we went into much more detail on Access to Care, based not only on the CCA workshop, but also a conference call and written input from the Healthcare Reform Taskforce (HRT).

Now we turn our focus to Cost Control and Efficiency issues. As before, we went back to the notes on the CCA workshop and then supplemented this with HRT conference calls—two this time on January 26 and February 9. We also received a number of e-mails with comments and suggested resources.

Health actuarial core competencies include estimating claim costs for future time periods, whether that be for determining insurance premiums, performing budget projections for self-insured employers, for retiree medical valuation assumptions, or determining the impact of a new plan design or provision. We are ultimately responsible for providing affordable and valuable health care programs at the most reasonable rate possible to people covered by insured or self-insured programs. It is essential that we have a solid understanding of how the health system works and what drives changes in claim costs. Our role leads us to understand the financial problems in the system and identify opportunities for improved efficiency and reducing cost trends. Further, our actuarial training and experience teach us the value of a far-sighted perspective, make us cognizant of the relationship between financial drivers and human behavior and skilled at projecting risk scenarios. Thus, we believe this

group is uniquely qualified to offer solutions to cost and efficiency problems that plague our health care system and that we have an obligation to speak up at this time.

As with the earlier articles, there are many different actuarial perspectives on the most appropriate way to improve the health system, depending on the individual's professional experiences and perhaps their social philosophy. We strive to include an array of different perspectives of health actuaries, but due to space and personal limitations some may have been left out. To the extent the selection of what to include or our commentary contain any bias, this is a personal reflection on the authors, not on the CCA or any other organization with which we may be affiliated.

Congress has finally passed, and the president has signed, a health care reform bill, the Patient Protection and Affordable Care Act (PPACA). While it may be disappointing to some that fundamental cost control and health care efficiency measures were primarily focused on government programs, such as Medicare, we are hopeful that some elements of the reforms passed will help us move forward to meaningful efficiency and cost control. Much of the impact of health reform will depend on how effectively the changes are implemented and on regulations yet to be formulated. There is still much to be done to improve our health care system, which will take a long time to accomplish. Indeed, the PPACA provisions are just the beginning and will not be fully implemented until 2018. It is difficult at this point to say to what extent aspects of PPACA will impact cost trends, but we believe that the recommendations outlined here are the most promising, regardless of the influence of the new law. Regardless, we view the suggestions presented here to be neither endorsements nor indictments of the reforms passed but rather suggestions for consideration: as regulations for implementation of PPACA requirements are formulated; as possible additional steps; or perhaps as alternatives should some initiatives be found to be ineffective.

FOOTNOTES:

[1] Truffer, et al. "Health Spending Projections Through 2019: The Recession's Impact Continues," *Health Affairs*, Feb. 4, 2010.

DEFINING THE PROBLEM

Without fundamental changes, current and growing financial problems will likely get even worse. The Centers for Medicare and Medicaid Services (CMS) reported earlier this year[1] that health care is now 17.3 percent of GDP, and that public expenditures are projected to exceed private expenditures by 2014. In addition, enrollment in employer-based health plans continues to decline and Medicaid is growing.

Reducing cost increases and increasing efficiency, thereby "bending the trend," remains essential for sustainable, accessible and affordable care.

The increasing cost of health care is sometimes oversimplified and considered to be a function of one single issue; for example, the profit motive of insurance carriers or pharmacy companies, insufficient competition, or due to overly high administrative costs in the industry. The reality is far more complex;

Private Health Insurance ($Billions)*

YEAR	PREMIUM	BENEFITS	ADMIN. & PROFIT	% OF PREM
2008	$783.2	$691.2	$92.0	11.7%
2007	759.7	665.1	94.6	12.5%
2006	727.6	634.6	93.0	12.8%
2005	691.0	599.8	91.2	13.2%
2004	646.1	560.3	85.8	13.3%
2003	604.6	522.0	82.6	13.7%
2002	551.0	482.4	68.6	12.5%
2001	497.7	441.1	56.6	11.4%
2000	454.8	402.8	52.0	11.4%

* Source: National Health Expeditures, table 12: ***http://www2.cms.gov/NationalHealthExpendData/downloads/tables.pdf***.

This chart summarizes data on Private Health Insurance (PHI) obtained from the National Health Expenditure Accounts, which are the official estimates of total health care spending in the United States. It summarizes total premiums and benefit expenses as well as the remaining percentage used for administrative costs and insurer profit for all PHI coverage in the United States by year.

multiple issues drive cost increases. Total cost includes claim payments to providers, claims payments from members, administrative expenses, and profit and risk charges for insurance coverage. It is true that short-term savings may be found by simply reducing administrative costs and profits. However, these costs are generally a small portion of the total costs (approximately 11.2 percent in 2009 for all private health insurance—see Table on page 22) and have actually been declining as a percentage in recent years. Reductions in insurers' administrative costs and profit alone are unlikely to have a significant impact on the total health care costs.

Underlying U.S. population trends make it difficult to reduce the overall cost of health care. For example, as the population ages, we expect to see continuing decline in health status. Some of this decline in health status is inevitable as a result of aging, while other factors may be more controllable or even reversible (e.g., obesity and related conditions). Improvements in population health status are undoubtedly a benefit, but it is unclear how meaningful the impact on cost trends will be. Even if significant changes in population health status do occur, without corresponding changes in the cost and efficiency of the health system, we may continue to see significant ongoing cost trends.

To achieve sustainable and long-term cost control, the increase in claim payments must be slowed as this is by far the largest component of health care costs and that which is increasing most rapidly. To impact this cost in the long term, fundamental changes are needed that affect the delivery of care on the provider side to reduce the inherent inflationary pressures in the current system. Therefore, this article will focus on more efficient use of our limited resource of health care providers.

As noted in Part II: Improving Access to Health Care (*The Actuary* April/May 2010), the high cost of health care is a significant barrier to access. If this issue is not addressed through health reform, many of the access barriers may remain even as other elements of health reform attempt to increase access to care.

PARAMETERS FOR SOLUTIONS

"Cost control" and "efficiency" do not necessarily mean cost reduction. Total costs would be reduced if we were to quickly and effectively solve the problems of waste and fraud in the system. These reductions would unfortunately be relatively short-lived, with increased demands for health care due to aging and advances in medical science that allow us to address formerly untreatable conditions quickly eclipsing those gains. We should expect and appreciate a steady increase in health costs over time, unless we are willing to embrace a future without further medical advances and deterioration of services as we age. The goal is to manage that spending so we get the most value out of it with the least sacrifice.

HISTORY TEACHES US THAT CONTROLLING PRICES WITHOUT ADDRESSING UTILIZATION IS A RECIPE FOR FAILURE.

For our purposes, we take the position that controlling cost for one population segment at the expense of another segment is not true cost control and only masks the problem, delaying eventual complete solutions. This is true whether the segments are defined by demographics (for example: active/retired or patient age), socioeconomic status, geography, or plan sponsor. To be sure, solutions may have to be customized for different segments—one size will not fit all—but the interrelations and unintended consequences on all segments of the population must be considered and addressed.

History teaches us that controlling prices without addressing utilization is a recipe for failure. Like most economic markets, health care will find deficiencies in pricing mechanisms and they will be exploited. In other words, people (including health care providers) tend to do what you pay them to do. We must be aware that if a unit of service defined by Procedure/Practice/Prescription X has a higher profit potential than Procedure/Practice/Prescription Y, then X will be utilized much more than Y. This is particularly true for health care since the providers of X and Y are primary determinants of demand. Often neither the providers nor the recipients of care have significant financial motivation, nor do they typically have the necessary information, to assess the relative benefits of the options.

POTENTIAL SOLUTIONS THAT PROMOTE EFFICIENCY AND CONTROL COST

Health care is more than one-sixth of the economy, so there is no single magic bullet or simple solution to control costs, since there are different issues with various segments of the health care industry. However, there are a host of powerful actions that can be brought to bear on the escalating cost of health care that have the potential to produce higher value, more efficient health care that may truly bend the trend line down without undue sacrifice. Some "solutions" however, bring with

them potential adverse unintended consequences, so we must be diligent in our efforts to identify these as soon as they emerge so as to steer around them if possible.

PERSONAL RESPONSIBILITY

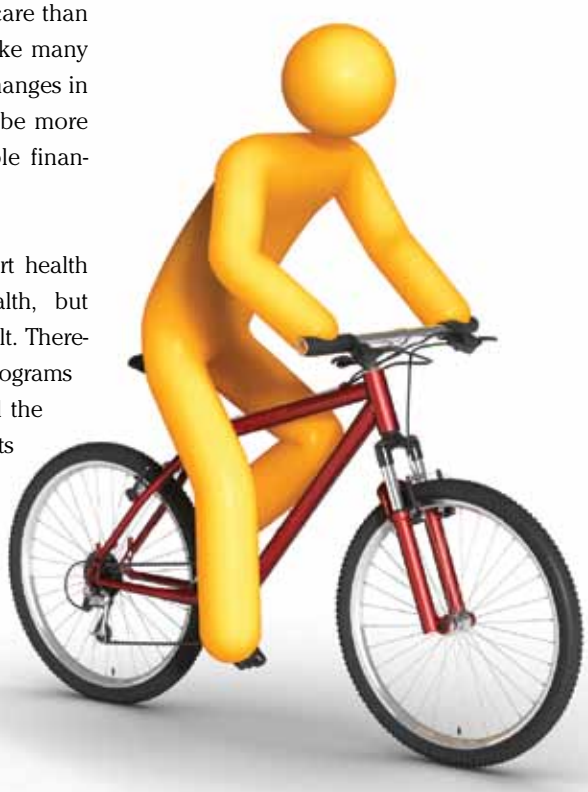
Many have suggested approaches that would increase personal responsibility for health care choices as an avenue for reducing health care cost. These approaches could include incentives or disincentives for lifestyle behaviors (e.g., smoking cessation or weight loss programs), purchasing behaviors (e.g., choice of provider or service), or some combination of both. Incentives could be part of a plan design or a separate program and could be either financial or non-financial in nature.

It is important to consider both consequences for unhealthy lifestyle choices (e.g., obesity, smoking, etc.) and choices and uses of medical resources (e.g., less costly drug, procedure, or provider). The choice or usage of medical care may have more immediate and tangible effect on the cost of care than changes in lifestyles which may take many years to realize. To some extent, changes in usage of health care services may be more easily accomplished through simple financial incentives.

Programs that promote and support health engagement improve patient health, but changing patient behavior is difficult. Therefore the expense to deliver these programs has historically been very high and the impact on total long-term health costs is mixed. These could include wellness programs which provide incentives (or remove disincentives such as copays) for health plan members to get appropriate preventive or screening tests at the appropriate intervals. Chronic disease management programs help members receive appropriate care to better manage ongoing chronic conditions. Acute management programs such as utilization review for inpatient stays ensure that appropriate care is received for short-term acute episodes.

Education and skill-building programs help individuals become better patients and allow them to be more proactive in their choices of treatment when more than one option is available. For example, health coaching programs have become available in recent years that help individuals understand the benefits and risks of certain surgical treatments and allow them to make appropriate choices for their individual circumstances. Often overlooked is the impact of end-of-life choices, which may include similar trade-offs of risk versus reward from the patient perspective.

In addition to engagement programs, it is helpful for programs to be supported by benefit design. These need not be mutually exclusive with the engagement programs described earlier, as programs with a tie-in to benefit-based incentives may be more effective than those that rely on engagement alone.



Possibilities include increasing member cost-sharing for higher cost providers or procedures, such as higher cost-sharing tiers for prescription drugs and other services that are more costly or less effective. A newer concept is value-based insurance design (VBID) which creates plan designs with lower cost-sharing aligned with higher quality providers or treatments that have been shown to be associated with better outcomes. Other approaches include explicit incentives earned by members for participating in disease management or wellness programs.

Many of these programs have been in place for some time with somewhat limited success at reducing costs significantly, so it is unclear how much impact we might expect on overall health care cost by adopting these programs more broadly.

Another aspect of personal responsibility is that individuals should bear the financial burden of their health care and lifestyle choices. Given the extremely high cost associated with some medical conditions, and the uncertainty as to whether these conditions will manifest for a given individual, most people (at least those who do not qualify for government programs) will need to purchase some form of health insurance to fulfill this responsibility. Some feel it is reasonable to require such coverage, with associated penalties for noncompliance, as this will relieve the burden of the cost of care for the uninsured that is currently borne by those with health coverage. However, it is unlikely that this will result in lower overall health cost trends since it is generally acknowledged that individuals with health insurance utilize more services than those without.

PUBLIC HEALTH INITIATIVES

An alternative, or better still, a complementary approach to personal responsibility encouragement by plan sponsors (insurers, employers and government) is a robust public health initiative. Through the influence of public media, school programs and government-sponsored community health facilities, many of the emerging adverse health trends may be reversed.

Obesity is widely believed to be responsible for much of the increase in health care costs in America, and potentially for a decline of longevity after decades of mortality improvements. Educational programs in the schools that emphasize the importance of proper diet and physical activity are essential to manage the obesity risk for future generations. These classroom activities need to be reinforced in school cafeterias with the introduction of healthy and appetizing choices and banishment of junk food, and in physical activity programs whose focus is to engage students in lifetime activities geared toward all children, not just athletes and not just during the school years.

This may be financially straining as municipal governments struggle with budgets in a down economy. However, when viewed as a part of the bigger health care picture, the cost of such changes pales in comparison of the cost of a lifetime of managing diabetes, and other co-morbidities.

For adults, similar messages need to be conveyed through community health centers, public media, and other sources of medical care. For instance, physician waiting rooms, pharmacies and other retail medical outlets could be encouraged to include patient education centers. Public media has shown that direct to consumer medical advertising can be a powerful motivator for certain health behavior, unfortunately without concern for whether or not the messages lead to cost control or medical efficiency. Redirecting, or at least counteracting, such messages is critical.

Besides lifestyle training, our public health funding should be provided for education in medical literacy, teaching people to be aware of their own health issues and how best to self-manage them. Additionally, knowledge about when and how to effectively utilize health care providers would likely pay large dividends.

While investments in public health initiatives no doubt have a value in improving the overall health status of the general population, their effect on the overall cost of care is less clear. One of the contributors to this article noted that significant long-term investments in smoking and tobacco use reduction have been made in the last few decades and have significantly reduced the incidence of diseases associated with tobacco use. Over the same time period, we have continued to see annual increases in the cost of health care well above general inflation rates, despite these significant reductions in disease incidence. Even significant improvements in public health, if they can be achieved, may not be sufficient to bring the overall health care cost trends to an acceptable level.

FOCUS PROVIDERS ON PROVEN DELIVERY INNOVATIONS

Buyers of health care are paying significant dollars and have begun to measure outcomes and recognize those providers and systems that achieve above average results.

Where these measurements indicate that non-traditional approaches show promise for increased efficiency and cost savings, we must reward and promote such innovation. Plan designs, networks, payment methods and other financial incentives that help focus providers on improving health are appropriate and likely

necessary elements to encourage innovation in the cost-efficient delivery of health services.

Innovations cited by actuaries that show promise include:

- Accountable Care Organizations, generally defined as a set of providers (hospital, primary care physician group, specialists and other health professionals) associated with a specific group of patients, responsible for the group's quality and cost of care. These providers share responsibility for the care provided to those patients and are accountable for the quality and cost of such care.

- Patient Centered Medical Homes, which focus more on individual patient medical needs, developing a team of providers led by a personal physician who coordinates care across life stages and disease states.

- Pay-for-performance schemes, sometimes expanded into value-based purchasing, and may also include bundled payments, which set out specific quality and efficiency goals for health care providers, then reward those who achieve the targets.

- Primary care payment reform that rewards primary care providers who encourage greater reliance on prevention, diagnosis, and patient education.

A consideration for any nontraditional payment approach is that the administration may be considerably more intensive and therefore more costly. At a time when much scrutiny and restraints are being applied to administrative costs, plan administrators may be reluctant to implement these systems, which can stifle innovation. However, since many of these concepts are being considered by Medicare, there are many existing pilot projects and the implementation of these programs may be much easier and cheaper in future years. Historically, Medicare has been the source of many provider payment reforms (e.g., Diagnosis-Related Groups and Resource-Based Relative Value Scale) that are later adopted by the private market.

ONE QUICK WAY TO REDUCE HEALTH CARE EXPENSE WOULD BE TO REDUCE UNNECESSARY AND POSSIBLY HARMFUL TESTS.

REDUCE UNNECESSARY SERVICES

One quick way to reduce health care expense would be to reduce unnecessary and possibly harmful tests, procedures and prescriptions. This would have the added benefit of saving lives and improving the health of those patients who are put at risk of adverse outcomes and side effects of such inappropriate "care."

However laudable such a goal might be, we must be realistic about the limits of medical science and realize that although it is likely that improvements can be made through appropriate incentives, trial and error will still be a part of health care delivery. In addition, balancing the priorities of limiting procedures while providing the best possible outcomes are complicated and personal. In the current system, treatments are paid as long as one physician recommends them. This reinforces the patient's instinct to discount risk where perceived rewards are potentially great, so patients will generally opt to try everything unless there is meaningful and trusted push back. This is a complex issue with substantial implications about professional guidance, communication, and potential medical and financial risks. However, it is a disservice to patients, their families and society to do otherwise. This is not just an end-of-life care issue but also applies every time someone wants a new drug because he or she saw it advertised on television or finds a miracle cure on the Internet. This issue may be addressed both by additional training for providers in having cost/benefit and risk/reward discussions with their patients as well as providing additional resources for patients themselves. Well-informed patients and providers may better understand the risks and potential benefits of various treatments and reduce the instinct to try everything.

Health coaching programs where patients are guided to better understand treatment options for preference sensitive care (i.e., where the most appropriate treatment is highly dependent on the preferences of the patient) have shown promising results in reducing the rates of the most intensive, costly, and in many cases more risky treatments for these conditions.

Three examples for resolving this problem were advanced by the actuaries who contributed ideas for this article: malpractice reform, improved diagnostic skills, and reducing financial incentives for providers to overuse certain services.

Medical malpractice reform would lessen providers' concern that they will be held liable for withholding or discouraging services that are unlikely to provide value to the patient. It is often felt that since there is little out-of-pocket cost to most patients under our current system, there is no harm in providing services with low expected value. However, these costs are eventually paid by someone and therefore contribute to the overall health care costs. Viewed from the perspective of risk avoidance and the limited capacity of the health system, this should be considered to be false reasoning.

Improved physician diagnostic skills are likely to yield quicker determination of the appropriate tests and treatment regimen and less reliance on trial and error medicine. Greater use of evidence-based protocols may also have the same result. This should lead to fewer but more productive specialist visits and procedures.

It has been observed that physician and hospital ownership of ancillary medical services, and other profit sharing arrangements can be tied to increased utilization of those services. Whether this utilization is indeed profit motivated or because the providers are simply more cognizant of the availability of the services, it has not been shown to result in more favorable outcomes for patients. Dis-

closure and regulation of these arrangements should be undertaken to assure that our medical dollars are used wisely. The recently enacted PPACA will require disclosure of financial relationships between health entities.

PROVIDER PAYMENT REFORMS

Provider payment reform may be one of the most important efforts in reducing long-term health care cost growth. Historically, the private sector has adopted many of the public sector payment approaches to enhance administrative efficiency for both providers and health plans. Most of these payment mechanisms are fee-for-service (FFS), where providers are paid for each procedure they perform with limited ability for plans to ascertain whether the procedure was necessary or appropriate. These payment approaches inherently create systemic incentives to provide more and more services. Fundamental changes in this payment mechanism may be necessary to reduce the long-term cost for the health care system as a whole.

Price Transparency—In addition to the issue of a general FFS payment system encouraging higher utilization, another problem with existing payment systems is that the actual rates paid for a given procedure are mostly unknown to the patient receiving the treatment. In fact, many times the cost of recommended services is not known even to the provider who is recommending the care. Greater transparency to patients of the actual cost paid by insurance for a given treatment or procedure may make patients less likely to overuse services even if recommended by the physician. This information on provider reimbursement should also be coupled with increased patient out-of-pocket cost, in order to more effectively change behavior.

Quality Information—Increased quality information could change the patient's choice of provider or treatment if a given provider is identified as being higher quality than other choices. In order to be of value, quality information, like price information, needs to be readily available and easy to understand at a time when health care treatment decisions are being made. While many plans have increased the availability of price and quality information in recent years, it is not yet readily available or organized consistently for most patients. Providing quality information to patients and providers in an effective manner will help reduce unnecessary care and likely reduce expenses, thus lowering the trend curve.

Provider payment arrangements take two general forms today. Public fee schedules (e.g., Medicare and Medicaid) are generally established by formulas that may or may not reflect the actual cost of delivering care. Private sector fee schedules are determined by negotiation between plans and providers and are generally significantly higher than their public equivalents.

Alternative Fee Schedules—Alternative approaches to fee schedules have been suggested including establishing an all payer fee schedule, possibly based on some relationship to public fee schedules. Another approach would establish a more market-driven fee level that would require providers to establish a fee schedule for all payers, public or private. This approach could generate more direct provider competition than rates based on negotiation or formula due to enhanced transparency and the elimination of cost shifting. This approach could also resolve the inflexibility of medical prices which leads to medical practice being driven by fee schedules rather than fees being driven by best medical practice. Another element that could be included in a market-based approach is more frequent fee changes and updates to reflect the supply and demand for health care services. In the current environment, fee schedules are often set far in the future with little or no flexibility to adjust for the variability of supply and demand for services.

Bundled Payments—Another approach to paying providers would be a bundled approach where a single payment covers all services provided for a given condition, regardless of what services are actually utilized, as opposed to FFS with a separate fee for each service. This approach is more consistent with how patients access care (i.e., patients present at a provider with a given condition or complaint) and could enhance the impact of other transparency initiatives. A bundled payment approach may also encourage provider creativity around more efficient ways to treat common conditions in the most cost-effective ways. Bundling payments could fundamentally change provider incentives from providing services to most efficiently treating a given condition.

Alternative Staff Utilization—Other potential solutions include recognizing and paying health care providers other than just physicians. In other words, staff that support the physician, or separate professionals other than those with an MD degree, can be utilized and paid appropriately for the level of service they provide. Clearly defining which level of provider can deliver a particular service whereby tasks are delegated when appropriate, can help control cost increases. This approach could be less necessary in a bundled payment scenario as long as appropriate levels of care were being utilized to treat a condition.

Weeding out fraud and abuse is necessary in any payment approach; however, FFS payment in the current system may make fraud and abuse somewhat more common than if alternate mechanisms were adopted. All payment approaches would also need to consider the impact of uncompensated or charity care. Currently uncompensated care is implicitly included as an additional cost shift to private sector payment and to some degree to public sector as well.

REDUCE MEDICAL ERRORS AND ADVERSE OUTCOMES

One important element of increased efficiency and reduced cost is the reduction or elimination of medical errors and adverse outcomes. One issue that may lead to high rates of medical errors and adverse outcomes is a lack of data-driven clinical guidelines for most conditions. Although criteria for evidence-based medicine (EBM) have expanded in recent years, many of these guidelines are still limited to preventive measures or the use of prescription drugs when indicated as a best practice. The ongoing findings of the Dartmouth Atlas Project suggest that there is significant variation in medical practice from one geographic area of the United States to another, and that most of the variation cannot be explained by differences in health status or outcomes. This suggests that in many areas, more care is delivered for the same conditions with no corresponding increase in health status or better outcomes. More development of and adherence to data-driven clinical guidelines could increase the quality of care as well as potentially reduce costs in those areas that utilize more than others.

Another source of medical errors and adverse outcomes is hospital readmission rates due to post-operative infections and other causes. Some pilot programs have shown good initial success in reducing readmission rates by creating stronger incentives for facilities and by establishing protocols to reduce the likelihood of errors and complications. Because the stakes are so high with medical errors (pain, suffering and even death), more should be done to ensure that avoidable errors are reduced as much as possible.

HEALTH INFORMATION TECHNOLOGY

Health information technology is a tool that could be used to reduce cost and increase efficiency in health care. While tools like electronic medical records (EMR) only produce significant savings with excellent implementation and coordination and require a sizeable upfront investment, the availability of these records may facilitate reduced costs and improved quality in other areas. The recent major funding for physician Health Information Technology creates potential for major improvements in coming years. There is a range of technologies available, from disease registries to EMR.

Because the use of EMR requires a sizeable upfront technology investment and a professional investment by users in establishing different processes and workflows, the adoption rate has been relatively slow and many providers have been reluctant to make the investment. Many that have converted have found significant value and would not switch back to the previous paper record format. From a cost perspective, EMR enables the immediate retrieval of lab and radiology test values by any provider in the practice. Benefits of EMR will be multiplied as more provider groups are connected and information on members is exchanged. This should reduce the need for duplicate tests required because the values are not readily accessible. In addition, from a quality perspective, having EMR available for a larger number of patients may allow for more robust clinical studies of data that is often unavailable or costly to obtain from chart reviews (i.e., lab test values and other periodic health status measures).

Personal health records (PHR) have also been under development in recent years. These differ from EMR in that they are generally online medical records maintained and compiled for use by individuals rather than providers. In some cases, these PHR applications are able

to access health plan claim records in order to download relevant information. Adoption of PHR would need to be widespread and be able to electronically connect with other medical information to have significant impact on cost and quality.

Some providers have established disease registries. These provide core claims or clinical data such as lab results for people with one or more chronic illnesses. This focus provides easier implementation and lower cost since the data can be collected in a centralized location with less investment by each physician.

In today's health care system, we do not link productivity and payment directly. Because we do not pay for efficiency (i.e., greater productivity or services per unit of time), technology adoption does not drive productivity in health care. In most other industries, there is a competitive advantage to efficiency so productivity enhancing technology is readily adopted voluntarily.

FOCUS ON ESSENTIALS

To summarize, improved efficiency and cost control, while a complex subject, can still be addressed by focusing on a few basic principles. We should strive to structure reform in such a way that we prevent disease from happening; put systems and protections in place that have proven to be successful in improving the health of the participants; and strive for payment methodologies that reward healthy outcomes. Government mandates should be filtered against these essential needs and restrained to not exceed them lest we suffer the consequences of preventing market innovations that could lead to significant medical advances.

Anything that goes beyond these essentials should be deemed medical luxuries and individually financed, either on a pay as you go basis or through prepayment or insurance methods. One needs only to look to refractive surgery for eye care to see how the free market has the potential to realize significant advances in medicine, even while cost of care is reduced. Consumers should have the flexibility to choose from various benefit packages and insurance types to control their own health care and determine what is essential to them.

SOME PROVIDERS HAVE ESTABLISHED DISEASE REGISTRIES.

CONCLUSIONS/RECOMMENDATIONS

Done right, focusing on cost and efficiency can yield significant improvements in the delivery and quality of medical care received by patients, but it needs to be done carefully. There have been many successful initiatives implemented at state level, pilots in federal programs as well as a multitude of private sector efforts that we can benefit from as we design future reforms. It is important that we consider what has been tried before and accept what appears to be successful and learn from the failures.

We will repeat a suggestion from the "Access to Care" article, part two of this series. A comprehensive study needs to be undertaken that looks at what has worked, what hasn't, and most importantly, why. However, this does not imply that we should not move forward with concepts that have already been demonstrated to be effective, or to continue experimenting with pilot programs and other innovations that may prove effective.

Access and cost/efficiency are related with greater efficiency and lower cost allowing us to provide greater access to health care services to underserved Americans. You may note that there are significant crossovers between our separate discussions on access and cost. Perhaps the most viable elements of a total solution are those pieces that were mentioned as solutions in both contexts.

Our next, and last, installment in this series will focus on funding and financing—what considerations we need to take into account in setting up an adequate and sustainable approach to paying for the health care services we all need. Any thoughts you care to share with us as we consider this daunting task will be greatly appreciated.

Once again, we relied on literally dozens of actuaries, mostly through their participation on the Healthcare Reform Taskforce of the Conference of Consulting Actuaries (CCA). We extend our thanks to them, for without their generous and open input this article would not be possible. Additionally, we especially want to acknowledge Michelle Raleigh, ASA, MAAA, FCA (schramm.raleigh Health Strategy), and Greger Vigen, FSA, for their assistance in framing the article and guiding the discussions on cost and efficiency plus invaluable reviews of our initial drafts.

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MISSION: SOLVING THE DERIVATIVES MYSTERY

YOUR MISSION, should you choose to accept it, involves the unveiling of the shrouded world of derivatives. Good luck! **BY BRUNO CARON**

Derivatives in general have been very mysterious to the public at large. Even some individuals with deep knowledge of the financial markets have been in the dark regarding some derivative contracts. Major changes need to happen in order to avoid another 2008 scenario, but what should those changes be? Multiple derivatives contracts are structured just like an insurance contract. Can the derivatives markets learn a few things from the insurance industry?

THE PROBLEM

Some derivative contracts are structured in such a way that the issuer receives premiums up front (in a lump sum or periodically) in return for the promise of paying a benefit under contingent circumstances. A credit default swap is an example of this type of derivative. If we look at the cash flows, a credit default swap is nothing more than a simple insurance contract. The issuer acts as the insurance company, collecting premiums in return for the promise of delivering a benefit in the event of a possible loss, in this case, the default of a security. The natural question to ask is: If a credit default swap contract is essentially the same as an insurance contract, why did credit default swaps create so much damage to our economy? The answer is: reserving! More specifically, the lack thereof.

A typical insurance customer is not usually familiar with insurance solvency issues and generally relies on good faith, reputation and the regulatory environment to make sure their goods and financial security are well protected and the insurance company will fulfill its obligations. The insurance industry is heavily regulated, and issuers of insurance contracts are required by law to hold reserves—i.e., a conservative amount set aside in order to pay for future contingent benefits. Profits from insurance contracts usually arise through the release of those reserves. This is a fundamental concept that actuaries are very familiar with, but not all financial professionals use this concept in their daily routine.

In contrast, transactions between derivative writers and derivative buyers are less regulated, in part because regulators assume that the two parties involved in the derivative transaction are experts at what they do and therefore don't need external protections. This assumption may be generally correct, but does the ultimate investor in the entity who takes on the obligation always know what position has been taken?

MAJOR CHANGES NEED TO HAPPEN IN ORDER TO AVOID ANOTHER 2008 SCENARIO.

Regulators impose broad capital requirements on derivative writers based on the full specifications of liabilities assumed by the issuer, rather than on a per contract basis. Liabilities are usually valued on a mark-to-market basis, which fails to capture possible worst case scenarios. Imagine a world where insurers do not hold reserves and the issuers of the policies treat premiums as instant profit. Let's further assume that individual compensations are a percentage of profits each year. Under that scenario, an insurance company would be considered profitable for a while, but when claims arise in excess of current premiums, the insurance company would have to declare bankruptcy. Obviously, that would be very detrimental for insured individuals and that is why regulators impose restrictions to protect the public from such outcome. But no regulation constrained credit default swap issuers to use the reserving mechanism to ensure that they would be able to meet their obligations, and so they didn't.

So who did pay for those obligations? In some cases, shareholders of the issuing companies, who were primarily investing in the other core activities of the issuing company and not anticipating huge losses from those obligations. In cases of bankruptcy, bondholders took a hit as well. In some other cases, taxpayers ultimately paid for those losses through the government bailout. It is therefore fair to say that this category of derivatives affects not only a small group of traders, but literally the entire population. It would only make sense for issuers of derivatives to always be in a position where they can honor their obligations.

THE SOLUTION

Issuers of credit default swaps or similar types of contracts should hold reserves for the liabilities associated with the derivative contracts. Currently, those reserves are assumed to be embedded in the capital requirements, with no particular focus on the nature of the obligation. The proposed solution calls for performing a conservative assessment of the liability and requiring the writer to hold

at least that amount as collateral. The writer should also be required to hold additional capital as a cushion, just as insurance companies are required to hold a minimum amount of capital in excess of carefully calculated insurance liabilities.

To remove the risk of bias, the reserving study should be prepared by a team of professionals independent of the issuing entity. Also, the final report should be signed off by a professional who has a special designation that could be jeopardized if the advice given is not proven to be consistent with professional standards. Derivative reserves, just like insurance reserves, should be calculated using both predetermined guidelines and professional judgment. A degree of conservatism is also desirable.

Proposed new regulation will require banks to hold more capital and disclose more information. No one can argue that this is not a step in the right direction, but how much capital is enough? The answer to that question lies within the assessment of the liability.

COSTS AND BENEFITS

Of course, the proposed solution implies extra costs, starting with the cost of holding the reserve. Having a professional sign-off on liabilities adds another layer of cost. The extent of this cost is correlated to the level of complexity of the derivative. This raises the question: Are the benefits from implementing reserves worth paying those expenses? To answer this question, let's look at the benefits.

1. Increase transparency

Firms issuing derivatives that promise future benefits usually have other activities in addition to their derivative operations. From an investor or analyst perspective, requiring a writer to hold reserves for each derivative contract would result in another level of transparency. This group of stakeholders may be interested in non-derivative operations and might not even be aware of the derivative activities. By holding and reporting reserves on those obligations, the issuer acknowledges its activities and puts a dollar figure on the obligation.

"As insurance products increasingly contain embedded financial derivatives and the financial derivative industry increasingly creates structures that behave as insurance contracts, it is natural that the valuation and risk management techniques of the two come closer together, thus creating a new opportunity for actuarial reserving techniques to be applied."

Mark Scanlon, FSA, CERA, MAAA, FIA, Towers Watson.

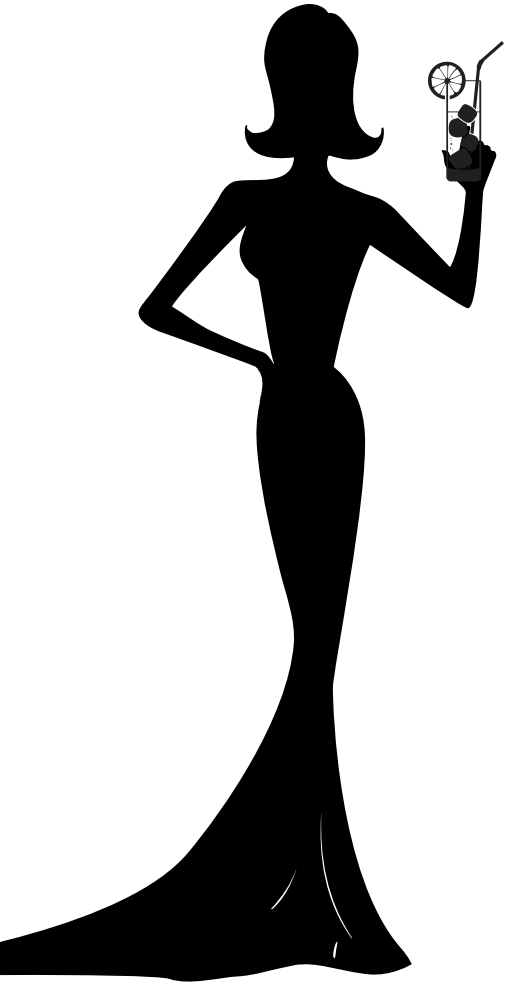
BENEFITS FOR IMPLEMENTING RESERVES

HOLDING RESERVES DELIVERS MULTIPLE BENEFITS FOR ALL STAKEHOLDERS:

1. Increase transparency.
2. Reduce agency cost problem and allow for a natural and fair compensation mechanism.
3. Select and prioritize which derivative to issue or enter in.
4. Decrease the possibility of not meeting obligations.
5. Reduce risk of a major crisis.
6. Improve or keep good reputation and attract long-term customers.

"When an insurance company makes a contractual promise, policyholders expect that promise to be backed up with sufficient reserves to pay their claims. This short article points out why derivatives such as credit default swaps may benefit by following a few basic insurance principles. This is good food for thought, not just for insurers but for every firm that transacts in these instruments."

Prakash Shimpi, FSA, CERA, MAAA, ING Insurance US.



Furthermore, an investor could go through the financial statements of a company and make an assessment of every type of derivative contract held and determine whether he/she is willing to take the risk of such exposure. However, this approach entails a few issues. First, the potential investor may not have all the information required to make the best decision. Even if all the necessary information is available and the investor has the skills to perform such an analysis, it would take a significant amount of time to analyze the derivative contracts, validate the assumptions and make a judgment call on whether or not to proceed with the investment. However, if a professional independent expert (or team of experts) would assess this liability, a substantial part of this task would already be done and most of the current opaqueness would be reduced, enabling potentially better assessments for valuing financial institutions.

Also, derivative contracts and securities usually get packaged and repackaged multiple times before being sold to investors. This again creates opaqueness. Multiple repackaging of contracts would decrease if the writer was required to hold reserves on its liabilities, because a professional assessor would need to perform a longer and more detailed analysis of reserves, increasing the cost of issuing such a product.

2. Reduce agency cost problem and allow for a natural and fair compensation mechanism

The individuals and groups trading derivatives have one goal: to make money. But is the goal to make money for the firm, or to make money personally? In the long run or in the short run? Compensation schemes for such products have been based on short-term measures. Situations have been identified where the compensation mechanism in place at the writer focuses only on short-term cash inflows and does not take into account the liability that the writer undertakes. Such schemes create an incentive for employees to write more derivatives, cashing in on premiums paid up front without concern for the substantial liability building up to the writer, possibly against its interest. This is known as the agency cost problem. What evidence is there that the writer is not treating premiums as profit and is taking necessary measures to meet its liabilities? Is the liability exposure adequately assessed? If yes, is there enough collateral to meet obligations in an extreme situation? Requiring the writer to hold reserves would likely lead to a compensation mechanism for derivative contracts that is more aligned with the underlying risk through the life of the product. With reserve requirements, profits (if any) will emerge over time, providing a more realistic performance measure that would reward individuals in a more prudent and fair way.

3. Select and prioritize which derivative to issue or enter in

Because capital is a limited resource, holding reserves would force issuers to prioritize their choices of which contracts they want to issue. Writers would not be able to issue as many contracts as they used to, so holding reserves would reduce leverage.

Proposed new regulation suggests limiting the amounts at stake and the scope of the institutions in their trading activities. But regulating speculation usually does not work well in a capitalist world. More often than not, it patches one hole and creates a leak somewhere else. In contrast, reserving requirements would naturally limit trading activities without the need to impose further restrictions.

4. Decrease the possibility of not meeting obligations

This point is self-explanatory: If the obligation

is assessed and funds are reserved to repay the promised liability, the issuer is in a better position to meet its obligation than if no funds are set aside.

5. Reduce risk of a major crisis

This point summarizes the benefits outlined above. The recent crisis erupted because issuers were writing as many contracts as the market would allow, without setting appropriate provisions. As long as no or few claims came in, the inflow of premiums made the contracts appear very profitable. Claims happened suddenly and rapidly, because all the underlying risks were dependent on each other. This is known as systematic risk. Sophisticated reserving methods are available to assess those liabilities. Reserving for derivatives would ultimately prevent big, out-of-control bubbles.

6. Improve or keep good reputation and attract long-term customers

Reputation is a vital attribute for any financial firm. Monumental mistakes are seldom forgiven, names are remembered, and rebranding can be very costly. The old saying "there is no such thing as bad publicity," may not apply to government bailouts or bankruptcy. A firm that holds adequate reserves is better prepared to meet its obligations. Holding reserves could enhance a derivative writer's reputation, attracting long-term, loyal customers and even creating a marketing advantage over other writers.

Holding reserves would also tend to amplify the financial strength of a writer in the eyes of regulators, which again would help to build a loyal customer base. The writer would also be able to offer better rates and, all else being equal, be more profitable in the long run.

CASE CLOSED

Warren Buffett calls derivatives "financial weapons of mass destruction." It is fair to assume that the derivatives described in this article fall into this category. On the other hand, the "Oracle of Omaha" has been investing in insurance companies for decades with conviction and success. So why such diametrically opposed views on two types of contracts when, in essence, they are of the same nature? If reserving was done for derivatives, would Mr. Buffett still have this same pessimistic view? Hopefully, this article has addressed this question. The author believes that reserving for credit default swaps and other types of derivatives would significantly reduce most of the major problems associated with the trading of these instruments, without the need for imposing other types of regulation. A

HOLDING RESERVES WOULD ALSO TEND TO AMPLIFY THE FINANCIAL STRENGTH OF A WRITER IN THE EYES OF REGULATORS. ...

Acknowledgment

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SOA CPD REQUIREMENTS

Wherefore Attestation

BY EMILY KESSLER

THE TIME HAS COME to attest your continuing professional developments. Helpful hints for accomplishing the task lie within this article.

As you are well aware, the SOA CPD Requirement took effect on Jan. 1, 2009. The SOA CPD Requirement is different from some other CPD requirements in that it requires you to attest compliance with the requirement and it makes your attestation public. Since the SOA CPD Requirement is on a two-year cycle, our first attestation is approaching on Dec. 31, 2010. The membership directory will be changing starting in 2011. What does this mean for SOA members?

WHY DID WE BUILD IN ATTESTATION?

Many people rely on the value of the SOA credential. Employers and clients hire SOA members because they know an SOA credential carries with it knowledge and expertise gained through years of study. But the SOA credential is not equivalent to a college degree: it's a professional credential. Professional credentials add value above and beyond a degree because most credentialing bodies ensure their members stay up-to-date with the latest knowledge and trends in their field. This assures the member's education is as strong as the day the credential was first granted.

As you know, the SOA Board of Directors approved a CPD requirement for all members, effective Jan. 1, 2009. This set minimum educational standards for continuing education for members. In setting the standard, the Board had to consider whether it was sufficient to simply have a standard, if there was no enforcement

of that standard. In other words is it sufficient to have a standard if the SOA didn't know if members met the standard? And, if a CPD requirement assures the users of actuarial services that SOA members have stayed current, shouldn't there be a way for the public to verify that SOA members met the requirement?

The SOA CPD Requirement was set in the aftermath of the failure of Equitable Life in the United Kingdom and the Morris Review, conducted by the U.K. government. More recently, we've seen financial markets crash, and the public lose confidence in the financial industry to protect their investments. Our employers, clients and the general public rely on the work actuaries do. In the light of recent failures, they cannot simply take our word for it that our members meet continuing education standards; they need to be assured that members meet existing standards.

So, the SOA Board added member attestation, including public disclosure of a member's compliance status. The Board considered it a small price to pay to preserve the reputation of the profession. [See sidebar "What Price Reputation?"]

WHAT IS ATTESTATION?

At the end of each CPD cycle, SOA members attest that they have met (or not met) the SOA CPD Requirement. SOA members can meet the SOA CPD Requirement by meeting one of the following (or a combination of the following):

- Section B of the *SOA Continuing Professional Development Requirement.*
- *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* (the U.S. Qualification Standard).
- *Canadian Institute of Actuaries Qualification Standard—Continuing Professional Development* (CIA Qualification Standard).
- Category 1 or 2 of the *CPD Scheme of Faculty of Actuaries & Institute of Actuaries* (UKAP CPD Scheme).
- *The Continuing Professional Development Standard of the Institute of Actuaries of Australia* (IAAust CPD Standard).

ATTESTATION WILL OPEN ON NOVEMBER 1 AND CLOSE ON FEBRUARY 28 AT THE END OF EACH CPD CYCLE.

In attestation, SOA members simply state that yes, they have met the SOA CPD Requirement and state by which of the five methods listed above the requirement was met. Attestation will be done electronically, by logging into the SOA member site. Once logged in, members click a few buttons and they're done. Members may print out a copy of their attestation for their own records.

Attestation will open on November 1 and close on February 28 at the end of each CPD cycle. So, for the 2009-2010 CPD cycle, the attestation period will open on Nov. 1, 2010 and close on Feb. 28, 2011. For the 2010-2011 cycle, attestation will open on Nov. 1, 2011 and close on Feb. 28, 2012. Members will be sent an electronic link, as well as reminder e-mails, during the attestation period.

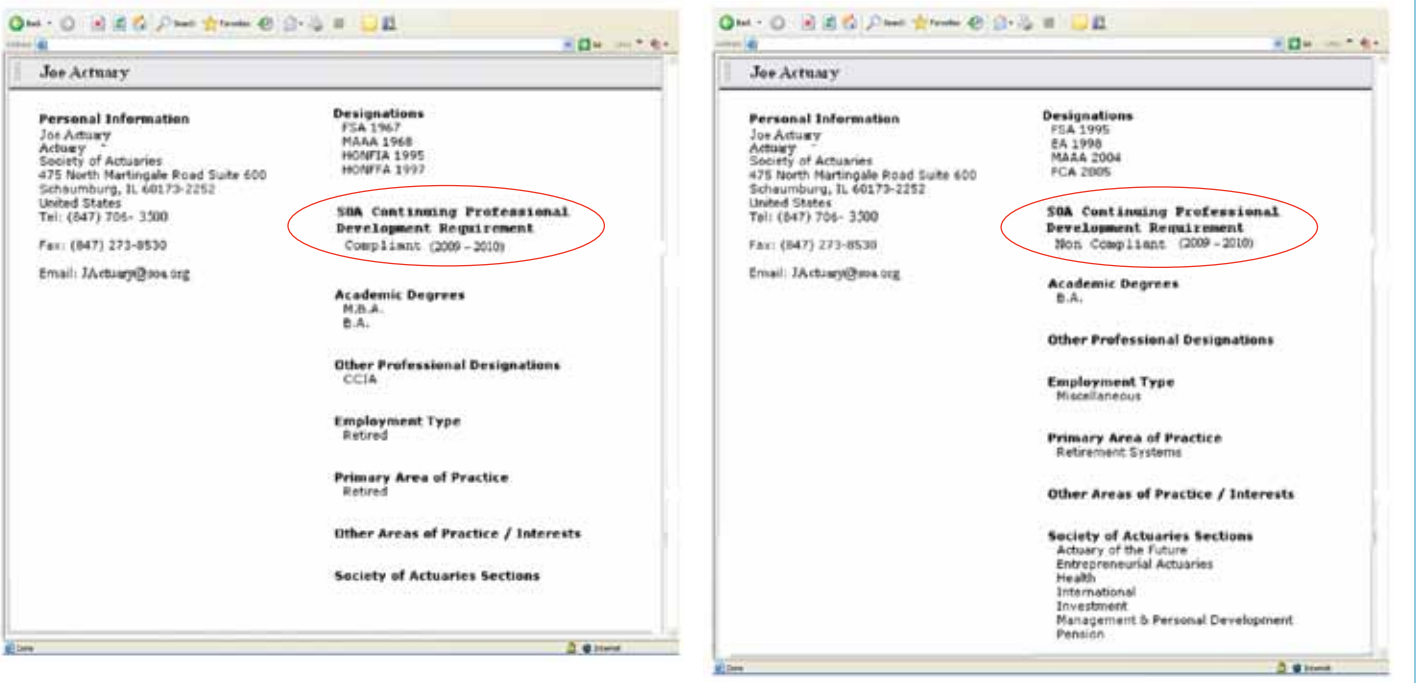
HOW DOES THE SOA VERIFY ATTESTATION?

The SOA will verify attestation by auditing a subset of the members—about 1 percent of members (approximately 200 members). Members who are audited will be asked to supply a compliance record showing how they complied with their elected attestation method. A member who complies with the U.S. Qualification Standard will be asked to show how he or she fulfilled, in each year, the 30 hours of required CPD for the U.S. Qualification Standard. A member who complies with the CIA Qualification Standard will be asked to show how he or she met, during the most recent CIA cycle, the 100 hours required by the CIA. Members' records should show the amount of time spent in self-study, webcasts, meetings and seminars attended, what type of credit was earned, and how many hours or units of credit were earned. You can find out more about the audit in the CPD FAQs at *http://www.soa.org/professional-development/cpd-requirement/cpd-faqs-toc.aspx.*

WHY WILL THE SOA AUDIT RECORDS?

Particularly during the first few cycles of the SOA CPD Requirement, the audit helps the SOA ensure that members understand

Member Directory Mock-Ups



the provisions of the requirement. But the long-term purpose of the audit is to assure the public that members who state they've complied with the requirement truly have complied. If there was no audit, the SOA could not assure the public that members weren't falsely attesting compliance.

HOW CAN THE PUBLIC VERIFY ATTESTATION?

The public can verify your compliance with the SOA CPD Standard by going to the membership directory. The member directory will show a member's compliance status. Note the directory doesn't show the method by which you complied, but just whether you've complied or not. A mock-up of the member directory is shown above.

Note that there is a new section (circled) called SOA Continuing Professional Development Requirement. The member, Joe Actuary, is shown as compliant with the SOA CPD Requirement for the 2009–2010 cycle. This is because Joe Actuary attested compliance with the SOA CPD Requirement between Nov. 1, 2010 and Feb. 28, 2011.

What if a member doesn't attest compliance? Then the member will be shown as noncompliant, as you can see above.

In this case, Joe Actuary either did not attest compliance, or attested that he did not meet the SOA CPD Requirement. As such, the directory shows him as noncompliant. Members who are retired (who meet the requirement for reduced dues on account of retirement) can voluntarily attest compliance, or can be shown as Retired in the directory.

As we change the directory in 2011 to show compliance, we will publish information on the SOA website so the public understands what compliance means. Specifically, we'll note that it means a member attested that he or she completed the CPD Requirement, but that it is not related to a member's qualifications to practice.

ATTESTATION FAQS

When will the directory be changed to show compliance with the SOA CPD Requirement?

The directory will be changed on March 1, 2011 (or shortly thereafter), at the close of the attestation period. At that time, all members who have attested compliance will be shown as Compliant and all retirees will be shown as Retired.

Will the membership directory show how I've complied with the Requirement?

No. The directory will only show that you complied, not the method of compliance.

What happens if I forget to attest compliance before Feb. 28, 2011?

For the first cycle, the SOA will grant a two-month grace period. If you have not attested compliance, and you aren't eligible for reduced dues on account of retirement, your status will show as Pending effective on March 1, 2011 (or

shortly thereafter). You will have until April 30, 2011 to attest compliance. If you don't attest before April 30, 2011, on May 1, 2011, your status would be shown as Noncompliant.

How will I attest?
You will log into the member website to attest. You'll be sent a link—in this case to the membership directory. You'll log in and be asked to check a few boxes to state that you've complied, and which method of compliance you used.

What happens if I don't know how to log into the member website?
Contact the SOA Customer Service department. You can reach SOA Customer Service by phone at 888.697.3900 between the hours of 8 a.m. and 5 p.m. Central Standard Time or by e-mail at *customerservice@soa.org.*

What happens if I don't comply with the SOA CPD Requirement?
First, the membership directory will show your status as Noncompliant (unless you are eligible for reduced dues on account of retirement, in which case your status would be shown as Retired). If you are not compliant, you are also required to notify anyone who relies on your actuarial services that you have not complied with the SOA CPD Requirement. This may include your employer. See Section A.2.e of the SOA CPD Requirement *(http://www.soa.org/files/pdf/current-cpd-req.pdf)* and the section on noncompliance in the SOA CPD FAQs at *http://www.soa.org/professional-development/cpd-requirement/cpd-faqs-toc.aspx.* A

What Price Reputation?

THERE'S MORE TO THE CPD REQUIREMENT

Warren Buffett

IN THINKING ABOUT the role of CPD and the profession, one important consideration behind attestation was maintaining the reputation of the profession.

HIGH VISIBILITY

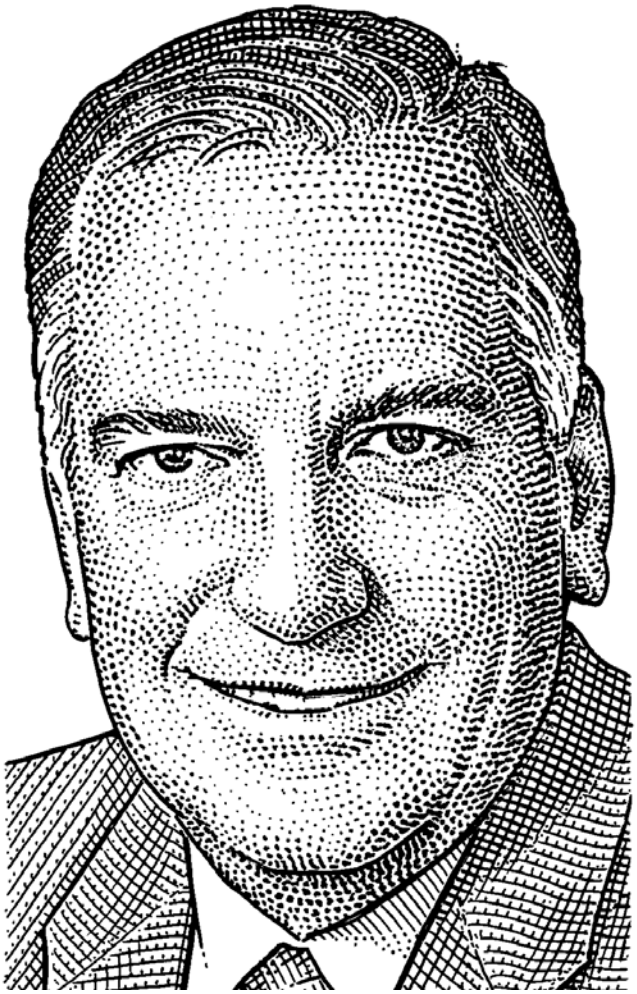
The SOA has done a lot of work in the past few years—through our marketing and market development program—to raise the profession's visibility with the media. Part of this goal is to expand the perceptions of employers (traditional and nontraditional) of potential roles for actuaries. As part of this work, we regularly survey employers to find out their perceptions of actuaries. We've talked about, in other reports, that employers want actuaries to do a better job of communicating and putting actuarial results into a strategic business context. And we've noted that actuaries rate high on these surveys in areas of quantitative skills, industry knowledge, knowledge of financial instruments and the markets, trustworthiness and high ethical standards.

MORE TO THE STORY

At first glance, the CPD Requirement may appear to be about maintaining the quantitative skills, knowledge of financial instruments and industry knowledge that employers value. That's partly true; part of the purpose of the Requirement is to ensure that current and future generations maintain those skills to the level expected by the users of our services.

But the attestation process and public disclosure of compliance with the Requirement were designed to help maintain the profession's reputation as trustworthy and having high ethical standards. By being transparent with the users of our services about SOA members' compliance with the CPD Requirement, we are assuring them that they can continue to trust actuaries—not just to maintain their quantitative skills, but also, that as a profession, we have nothing to hide with regard to our continuing professional development. This transparency helps to maintain our reputation as trustworthy and having high ethical standards. After all, if we won't publicly disclose compliance, what are we trying to hide? Do we think most members aren't complying? Yes, we recognize that may put a few actuaries in uncomfortable situations. But maintaining the strong reputation of the profession outweighs the possible discomfort of a few individuals. After all, a reputation once lost, is hard to rebuild. — E.K. A

IT TAKES 20 YEARS TO BUILD A REPUTATION AND FIVE MINUTES TO RUIN IT. IF YOU THINK ABOUT THAT, YOU'LL DO THINGS DIFFERENTLY. —WARREN BUFFETT



Interview

BRADLEY M. SMITH
DO THE RIGHT THING

BY JACQUE KIRKWOOD

Bradley M. Smith, FSA, MAAA, has been a consultant for more than 20 years. During that time he has learned some very valuable lessons: celebrate your victories, learn from your defeats and always try to do the right thing. In this interview, Smith discusses his business philosophies, the risks he has taken, and his new book, What Do You Think? Preparing for the Question that All Clients Ask. (See page 42 for more information)

Q: What has been your most memorable achievement on the job?

A: Two things come to mind. First, helping clients to attain their objectives and succeed has been enormously satisfying. Fortunately, I have had the privilege to work with a number of very successful individuals and organizations throughout my career, each of whom has given me the opportunity to contribute to their success. Secondly, being elected chairman of Milliman by my professional colleagues was a great honor. It is also a tremendous responsibility, one I take very seriously. It is probably the most important and satisfying thing that I will do in my commercial career.

Q: Would you still pursue a degree in actuarial science if you could turn back the hands of time?

A: Given my inability to hit a curve ball, absolutely! Actuarial science has allowed me to lead a very fulfilling life, both professionally and personally.

Q: What is the most important lesson you've learned in business?

A: It sounds trite, but your life and career are marathons, not sprints. Be positive. Focus on your long-term goals. Celebrate your victories, learn from your defeats and always try to do the right thing.

Q: Who are some people who have influenced you during your career? How so?

A: A number of people from Milliman stand out. Bob Collett, Greg Jacobs, Lynn Peabody and Walt Rugland were all very instrumental in bringing me to Milliman and all contributed to my success, once I was on board.

However, the two people who have had the greatest influence on my life and my career are my dad and my wife, Karen. My dad worked for a small insurance company in Chicago. He carpooled with the chief actuary of the company. That is how I learned about the actuarial profession. More importantly, he was constitutionally incapable of being dishonest, untruthful or disloyal. Karen is the person whose judgment, with respect both to people and business, I trust implicitly. She also has the uncanny, seemingly effortless ability to keep me focused on what is important, both professionally and personally.

Q: What about the actuarial training you received prepared you most for the business world?

A: Developing the analytical skills necessary to become an actuary prepared me for some of the challenges I have faced in my business career. Additionally, the discipline required to make it through the exam process has proven to be quite valuable. Actuaries are an incredibly bright, intelligent group of people. Being surrounded daily by such intellectual curiosity is both a challenge and a privilege that has benefited me immeasurably.

Work on your weaknesses more than your strengths.

Q: How has the actuarial profession changed since you first came aboard?

A: When I started my actuarial career in the late 1970s, the focus was primarily on determining expected value. Due to both the expanded computing capability and a greater awareness of the nature of risk, actuaries now focus more on the "tail" of the probability distribution. Partially due to this, actuarial discipline is now being applied to a much broader spectrum of issues than it was in the past. Continued expansion of the application of actuarial principles beyond the world of insurance and pensions will drive the growth of the actuarial profession in the future.

Q: What are some of the most significant risks you've taken during your career? What did you learn?

A: At the time, I thought joining Milliman to develop a life and health actuarial practice in Dallas was a big risk. I was vice president and chief actuary at a medium-sized life and health insurance company and was quite secure in my position. That company was eventually sold and many seemingly "safe" positions were eliminated. Joining Milliman was the least risky course I could have taken. Professionals who join Milliman are limited only by the strength of their intellect, the depth of their character and their desire to pay the price necessary to succeed. Sometimes, the path that appears to be fraught with the most risk is, in reality, the least risky.

Q: Describe what you would call a truly satisfying day.

A: A perfect day for me consists of accomplishing something meaningful professionally, truly advancing the ball on a project or assignment, spending time reading and exercising as well as relaxing with my family and friends.

Q: In general, what advice would you offer to up-and-coming actuaries?

A: Work on your weaknesses more than your strengths. Accept any opportunity to travel or work internationally; it will give you a much broader perspective. Read; it will make you a better communicator. Expand your knowledge into other disciplines (e.g., accounting, law, medicine, finance, economics, IT); it will differentiate you. Always do the right thing, no matter how difficult it is at the time. A

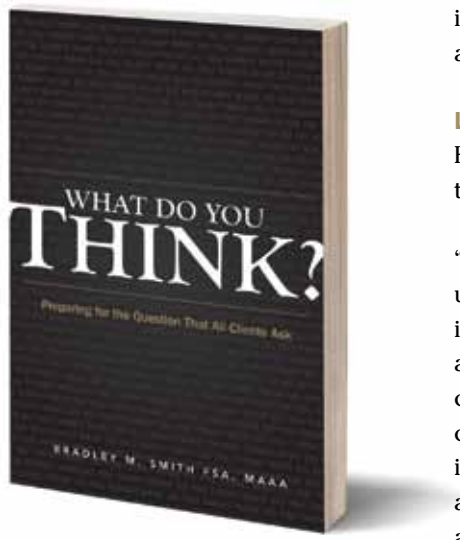
Bradley M. Smith, FSA, MAAA, is chairman of Milliman, Inc. He can be reached at *brad.smith@milliman.com.*

Jacque Kirkwood is a senior communications associate at the Society of Actuaries. She can be reached at *jkirkwood@soa.org.*

From Pen to Paper …

BY JACQUE KIRKWOOD

Throughout his professional career Brad Smith has given many talks to various groups: high school and college students, graduate students, and young professionals just entering their careers and seasoned veterans. After many of those talks, people often asked him for copies of his remarks. He opted to write a book, *What Do You Think? Preparing for the Question That All Clients Ask.*



THE QUESTION

"Hopefully students and professionals in the early stages of their career will extract something meaningful from the experiences of a career that has spanned more than 30 years," said Smith. "For the seasoned professional, the book is the equivalent of 'batting practice.' Maybe it will remind them of things they already know but have forgotten along the way. A few of the takeaways include the need for clear communication before, during and after the engagement; the importance and power of disclosure with respect to communicating any potential conflicts of interest you may have; making a commitment to lifelong learning; and achieving a sustainable long-term work/life balance."

The underlying premise of Smith's book is that all clients ask the same question, "What do you think?" The implications of that question include the requirement to have a particular technical expertise that clients or potential clients need. However, the author contends that this is not enough.

"Your potential clients need to know that you possess that expertise," he said. "This may entail writing papers, publishing articles or giving speeches to professional or industry groups. Additionally, once engaged, you need to be able to communicate your findings in simple, straightforward language, both verbal and written, that nonexperts in the subject can understand. Finally, although seemingly obvious, you need to think. A deficiency in any of these four requirements typically leads to a less than successful career."

INVEST

According to Smith, it's essential to make lifelong investments in learning. The most successful professionals, he says, are the ones who have knowledge and expertise outside of their chosen specialty.

"For actuaries, understanding accounting, business law, economics, IT, finance or medicine can help you bridge the gap between actuarial and other issues or considerations," said Smith. "This capability to learn and understand various other business topics differentiates you from others in the profession. And knowledge in other areas goes a long way with your clients."

LISTEN

He also stresses the importance of finely tuned listening skills.

"Perhaps because it's less obvious and underrated, I believe that one of the most important skills for any consultant is the ability to listen effectively," he said. "Most consultant-client disputes arise not because the consultant did poor work. Rather, it's typically a case where the consultant answers a question that the client has not asked or fails to answer the question that the client has asked."

THE RIGHT THING

Smith writes about the necessity of integrity in one's work.

"Doing the right thing, even when no one is watching, is the working definition of integrity that I adopted in this book. If you cannot be trusted, you will not succeed over the long run. Always work to maintain the highest level of ethical behavior in everything you do." A

Jacque Kirkwood is a senior communications associate at the Society of Actuaries. She can be reached at *jkirkwood@soa.org.*

What Do You Think? Preparing for the Question That All Clients Ask by Bradley M. Smith is available for purchase by visiting the SOA website at *www.soa.org/buybooks.*

Understanding Actuarial Management:
the actuarial control cycle, 2nd edition

PUBLISHED BY THE SOCIETY OF ACTUARIES AND
THE INSTITUTE OF ACTUARIES OF AUSTRALIA

Understanding Actuarial Management: the actuarial control cycle has been widely adopted in the academic and commercial world. This UPDATED EDITION draws out the principles common to all areas of actuarial practice and illustrates them with a wealth of global examples. In addition to being a required text for use in the Fundamentals of Actuarial Practice course, this book is an extremely valuable resource for actuarial professionals around the world, providing a SYSTEMATIC APPROACH to the application of actuarial theory to REAL WORLD PROBLEMS.

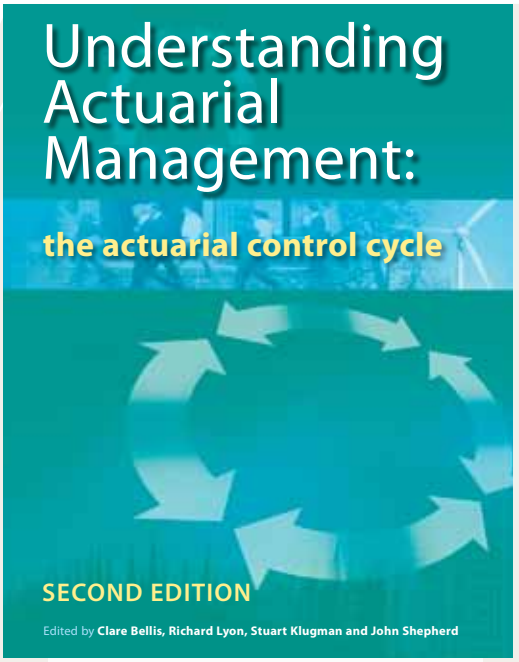
The completely revised second edition provides some key improvements:

1. Risk management has a clearer focus and is emphasized throughout.
2. Principles are illustrated with examples from a wide range of practice areas.
3. There are more contributions from prominent actuaries around the world, including SOA members.
4. Each chapter includes many new exercises, with solutions provided on the accompanying CD.

Key Topics Include:

- professionalism and the context of actuarial work
- risk management frameworks and their application
- the need for financial products
- regulation
- modeling, data and assumptions
- product design and pricing
- the need for capital
- assets
- valuing liabilities, solvency and profit
- monitoring and responding to experience

UNDERSTANDING ACTUARIAL MANAGEMENT: THE ACTUARIAL CONTROL CYCLE, 2ND EDITION, is essential reading for actuarial students and for professionals seeking insight into how to manage financial risk within dynamic economic and social systems.



To order, please visit *www.soa.org/buybooks*.

Education

PRINCIPLES TO LIVE BY

BY STEVE EADIE

AT ITS FEBRUARY 2010 MEETING, the SOA Board of Directors approved a recommendation from the Transfer Knowledge Team (TKT) to adopt a new set of Principles for SOA Education. The approved set of principles can be found at *www.soa.org/files/pdf/edu-principles.pdf*.

Q: Why did the TKT conduct a review of the Education Principles?

A: The simple answer is because the Board asked us to. In fact, the request for this review is a positive outcome from the Future Education Methods (FEM) discussion that held the profession's attention for a good portion of last year. After consulting the membership in August and September of 2009, the Board discussed FEM and members' reaction to the concept at its October 2009 meeting. At that meeting, the Board decided that it would not continue to investigate FEM in its then current form, but noted that it would have been helpful to have had a better framework for measuring the potential implications of FEM and any other education initiative that might be considered in the future. What the Board was seeking to answer was: "What are the principles that should guide us in making a decision about an education initiative like FEM?" As a result of this discussion, the Board passed a motion asking the TKT to review the principles of prequalification education.

Q: Didn't we already have Education Principles?

A: Of course we did. It's just that we hadn't reviewed the principles recently. The last review was during the early stages of the Education Redesign project that began in 2000. That's right. Almost 10 years have elapsed since our last education redesign! These principles were developed by the members of the Education Redesign Task Force and were reported to the membership through an article in *The Actuary* in May 2003. They were based, in part, on previous education principles that probably go back to before I was born.

Q: Did the TKT recommend changes to the Education Principles?

A: Yes, but most of the changes just clarified the existing principles. There were, however, two very important changes.

The first was that we added a principle requiring the Education system to "incorporate the elements of the SOA Competency Framework as appropriate." The elements of the SOA Competency Framework are listed on the next page. The Competency Framework was developed in 2009 after extensive consultation with our members, employers, potential employers and other interested parties. The framework sets the high-level competencies that our key stakeholders, including employers, clients and the public are expected to demand from actuaries in the future.

In the past we had principles that required attention to rigor and a long-term perspective instead of the Competency Framework Principle. Now we have a Competency Framework Principle that, if it is adhered to, should allow us to achieve the necessary rigor and long-term perspective.

The second change was that we split one former principle into two. We used to have an Education Methods Principle. We now have a Learning Methods Principle and an Assessment Methods Principle. We think it is important to always be aware of both aspects of education; delivering learning opportunities and assessing the achievement of the candidates and their learning outcomes.

Q: What are the new principles for SOA Education?

A: EDUCATION PRINCIPLE: Develop actuaries who are able to deliver a service of quality and high standards that meet the current and projected future needs of employers, clients and the public.

This is the SOA Education system's primary objective. I think it is self-explanatory and

unambiguous. I wonder if I will think it is self-explanatory and unambiguous in 10 years.

ATTRACTION PRINCIPLE: Attract candidates who are likely to become successful actuaries.

I think everyone will have their own spin on what is meant by the reference to becoming a successful actuary. To me, it is a candidate who is well positioned for a career that will bring personal and professional satisfaction. To attract candidates we need an Education system that is viewed as a desirable choice by our potential candidates. They will demand a system that is accessible, flexible, transparent and educationally sound.

COVERAGE PRINCIPLE: Ensure coverage of core topics common to all actuarial disciplines, as well as topics related to specialty requirements and to the emerging needs of the profession, so as to prepare actuaries to take on their chosen role(s) in a variety of different areas of actuarial practice.

Cover core, specialty and emerging topics. That pretty much covers it! This principle was formulated as part of the 2005 Education Redesign work. We liked it then and only made minor modifications to clarify the principle during this review.

COMPETENCY FRAMEWORK PRINCIPLE: Incorporate the elements of the SOA Competency Framework as appropriate.

I think this is an important addition to our principles. Adherence to this principle should ensure that our Education system will remain aligned with the needs of our candidates, employers, potential employers and the public. Application of this principle will allow us to progress as the technical and nontechnical competencies required to be a successful actuary evolve.

LEARNING METHODS PRINCIPLE: Achieve quality learning by using the best and most appropriate methods available.

Delivering appropriate learning opportunities and assessment methods for each of the eight current competency areas is an effort that has been a key consideration for quite some time. For example, the SOA added a new learning delivery system for professionalism, one of the eight competencies, almost 25 years ago—the Fellowship Admissions Course (FAC). Recently, new learning opportunities to develop communication skills, another of the eight competencies, were added through the introduction of the Fundamentals of Actuarial Practice course, the FSA modules and the Decision Making and Communications module. These e-Learning requirements allow the candidates to practice their written communication skills by completing end-of-module exercises, assessments and projects, while the FAC provides the opportunity for candidates to demonstrate oral communication skills via preparation and delivery of formal presentations to their peers.

Steve Eadie

Implementation of information, instruction and education delivery methods that are not traditional will be necessary to assist members in further developing their knowledge, skills and abilities. For example, fostering results-oriented solutions begs for the use of case studies and group learning, not individual self-study.

CONTINUED ON PAGE 46

SOA Competency Framework

COMPETENCY	LEGEND	DEFINITION
Communication	C	Demonstrating the listening, writing and speaking skills required to effectively address diverse technical and nontechnical audiences in both formal and informal settings.
Professional Values	P	Adhering to standards of professional conduct and practice where all business interactions are based on a foundation of integrity, honesty and impartiality.
External Forces & Industry Knowledge	EF	Identifying and incorporating the implications of economic, social, regulatory, geo-political and business changes into the design and delivery of actuarial solutions.
Leadership	L	Initiating, innovating, inspiring, creating or otherwise acting to influence others regardless of level or role toward a common goal.
Relationship Management & Interpersonal Collaboration	RM	Creating mutually beneficial relationships and work processes toward a common goal.
Technical Skills & Analytical Problem Solving	TS	Applying the actuarial knowledge, skills and judgment required to provide value-added services.
Strategic Insight & Integration	SI	Anticipating trends and strategically aligning actuarial practice with broader organizational business goals.
Results-Oriented Solutions	RO	Providing effective problem solving that addresses relevant interests and needs.

This principle requires the continued introduction of new instructional technology developments and both innovative and engaging delivery techniques into our education system. Simply using a method because it was used in the past will not be acceptable in the future. We have already followed this principle in practice; for example, we introduced e-Learning as a method to deliver learning opportunities to our candidates beginning in 2006. e-Learning enables us to use case studies, discussion forums and practical exercises as part of the candidate's learning experience. We also introduced Validation by Educational Experience (VEE) to our requirements during the redesign. We believe the learning objectives covered under the VEE portion of the current system are best delivered through course work and not through self-study.

In practice, the learning methods actually employed may not always be the ideal, or most cutting edge, due to cost constraints or impracticality. However, the methods used must always be appropriate and of high quality.

ASSESSMENT METHODS PRINCIPLE: Select assessment methods that are appropriate for the subject matter and effectively discriminate between candidates who have and who have not met the standards set for the material being assessed.

Again, we have introduced different and alternative assessment methods. The VEE portion of our current system, while not tested by the SOA specifically, requires evidence of satisfactory completion of an approved course before credit is granted.

The Fundamentals of Actuarial Practice course requires completion of an Interim Assessment and a Final Assessment. These assessments are designed to elicit sample performance that verifies mastery of course concepts and application of learning. The Interim Assessment is an open book examination consisting of short-answer questions completed over a period of up to one month. The Final Assessment, completed in a 96-hour period, is an authentic and practical assessment. It requires candidates to perform a series of significant and relevant tasks to solve a problem and effectively communicate the results. The method enables measurement of complex, higher-order competencies that are difficult to assess with traditional measures. The assessments are not proctored, but there are controls in place. Candidate submissions are subjected to plagiarism-checking software scanning and are formally graded. The Interim Assessment and the Final Assessment are not easier or harder than our traditional proctored examinations, but they are different. They are valid and reliable methods designed to measure what we want and need to measure.

The Interim Assessment and the Final Assessment are not easier or harder than our traditional proctored examinations. ...

We have also introduced computer-based testing for three of our preliminary examinations. Such examinations are offered up to six times a year.

INTERNATIONAL ORGANIZATIONS PRINCIPLE: Conform to education guidelines of the International Actuarial Association (IAA) and the Global CERA treaty, and other guidelines as directed by the SOA Board.

This principle will obviously evolve as international requirements evolve. We need to ensure that our members continue to be respected worldwide. We also need to ensure that we participate effectively in international initiatives.

The Global CERA treaty, in particular, is an important development. Once it is fully implemented, the CERA credential will be respected worldwide and will recognize actuaries globally who meet stringent education requirements in enterprise risk management (ERM) and are governed by a strong code of professional conduct.

INTERNATIONAL CANDIDATES PRINCIPLE: Recognize that candidates are located throughout the world and that SOA designations and credentials have worldwide respect.

SOA members practice throughout the world. We must always be aware that we have a worldwide audience. How we deliver educational opportunities is particularly affected by the fact that we have a worldwide audience. How we assess achievement is also affected; we have many candidates who use English as their second language.

DESIGNATIONS PRINCIPLE: Recognize that the SOA designations and credentials are used for qualification purposes other than SOA membership.

This is a very important principle to all of our members. The qualification standards of

other bodies do influence what we do. The qualifications standards are not, however, controlling since other jurisdictions can, and often do, require additional educational components to meet their objectives.

If we meet our other objectives effectively, our members should continue to be recognized as meeting the educational standards imposed by other jurisdictions, but we must remain mindful of those standards.

We must carefully consider what each of our designations and credentials means. How will the meaning of FSA, ASA and CERA shift over time?

STAKEHOLDERS PRINCIPLE: Consider the perspectives of key stakeholders, including candidates, members, employers and the public.

The key stakeholders listed are the four primary stakeholders identified in the SOA Strategic Plan. It is important to consider each stakeholder as the Education system evolves to meet our future needs.

I believe the principles approved by the Board establish an appropriate framework for our staff and volunteers who work in the education system on a day-to-day basis. They should give us the flexibility to make informed decisions with respect to establishing the right instructional objectives for our candidates and appropriately assessing their learning outcomes.

We will deliver an education system that develops actuaries who are able to deliver a service of quality and high standards to meet the current and projected future needs of our employers, clients and the public.

Steve Eadie, FSA, FCIA, is a partner with Robertson Eadie and Associates and a member of the Transfer Knowledge Team. He can be contacted at *seadie@re-a.com*.

Comments referencing this article may be sent to *education@soa.org*.

Financial illiteracy hurts

That's why the Foundation developed ***Building Your Future***, an engaging and relevant high school financial literacy curriculum resource. Now, more than ever, today's teachers thirst for resources to teach their students how to manage money wisely for a secure financial future. The ***Building Your Future*** series is designed to quench that thirst.

Many of your colleagues have already joined the QUENCH THE THIRST campaign for financial literacy. Now we need your help, too.

Hundreds of teachers have requested and are waiting for these valuable resources. Your gift of $250 provides one high school classroom with the ***Building Your Future*** curriculum.

"The *Building Your Future* lesson plans are just what we need to help students grasp how important financial literacy is to everyday life."
— Charleston High School (TN)

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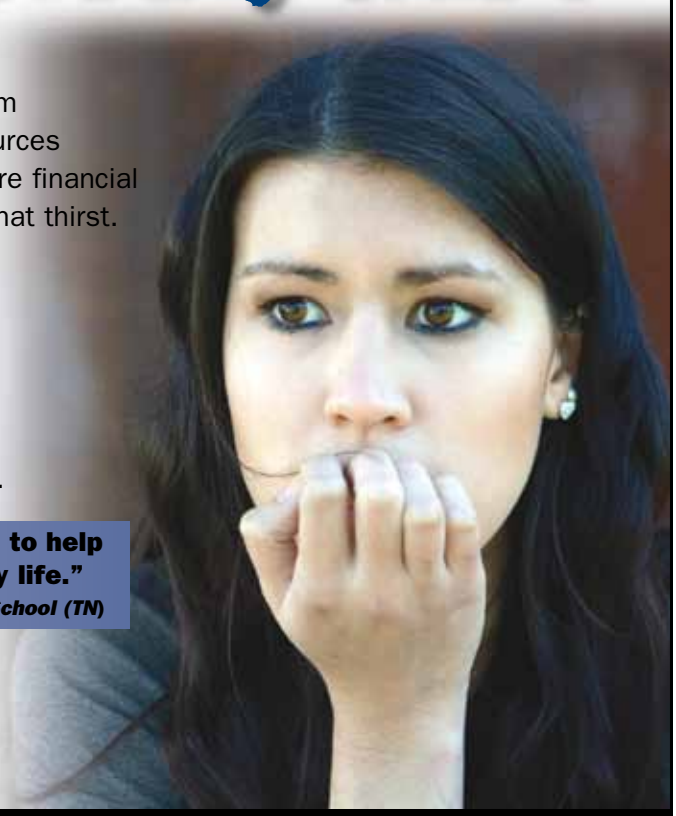

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The SOA At Work

PROFESSIONAL GROWTH OPPORTUNITIES

THIS SOA AT WORK COLUMN focuses on our continued efforts to create professional development growth opportunities for our members. It's important that we regularly offer you new tools to meet your career goals and keep up with the emerging directions the industry is taking. To that end, we worked with many of you last year to develop a Competency Framework aimed at assisting you in creating a professional development strategy for your career. What direction are you heading? What are employers looking for? What skills do you need to get there? What are your growth areas? The Competency Framework will help you to answer these questions. For our major 2010 meetings, we've matched our sessions to the various competencies within the framework. As you sign up for these events, review the Competency Framework and give some thought to how each session might round out your areas for professional growth.

We recently conducted comprehensive market research to identify untapped opportunities for our members in the health practice area. The research revealed new directions for health actuaries and the skills needed to take advantage of these new opportunities. One of the keys to career success is the ability to change and grow with a field and we hope this research will provide information you need to continue to adapt. To help, we'll soon be using the research to begin developing new continuing education opportunities. We'll also work it into our planning for basic education.

In addition, our new SOA blog (Speaking of Actuaries) on our home page is keeping you abreast of all of the latest hot topics—and is a great place for you to get in the conversation. We've already discussed issues such as health reform, employer feedback, how we can improve member communications (like the new blog), the future of ERM, what's happening in Asia and, most recently, the role of universities in creating intellectual capital for the profession. If you haven't gotten in on these discussions and added your comments, we hope you will. The SOA is committed to communicating frequently and fully with our members on all issues of concern to you. The blog is another way to do that.

Another big development is our work to offer fellowship exams twice a year, beginning with the fall exam sitting in 2011. We think offering these exams twice a year will be a very significant help to candidates, giving them more options in planning their exam strategies.

Finally, we're testing a new pilot project intended to provide relevant research on retirement issues. This is still very much in its beginning stages, but we're excited to see whether we can develop the capability to provide critical research in a manner that will make it most valuable to our members and the public. A

— SOA Executive Director Greg Heidrich

DEVELOP YOUR CORE BUSINESS SKILLS: UTILIZE NEW COMPETENCY FRAMEWORK

The SOA recently rolled out its new Competency Framework, developed for actuaries by actuaries. This framework offers you guidance on developing core business skills. The goal is to promote lifelong learning that meets the needs of individuals, their employers and the public. By providing a systematic approach to selecting SOA professional development opportunities, you will have the opportunity to develop your core business skills, such as leadership, communication, strategic insight and analytical thinking, along with technical skills. This framework is designed to help you meet your own career goals. The SOA is providing professional development sessions at all of its major meetings, encompassing the full range of competencies included in the framework. For more information on the SOA Competency Framework, visit *www.soa.org/competency-framework.*

GET IN ON THE DIALOGUE: CHECK OUT OUR NEW BLOG

The SOA wants to get conversations started on topics of importance to actuaries and those impacted by the actuarial profession. To that end, we now have a blog, "Speaking of Actuaries," which we hope you will read regularly and provide feedback. Actuaries continue to help turn risk into opportunity and we want to talk about it. This interactive forum was created to share news and discuss emerging issues. The SOA is committed to engaging in an open conversation and we encourage you to share your input and ideas. While the primary audience for this blog is you, our members, we also welcome candidates and others to participate in the dialogue. Visit the blog at *http://blog.soa.org.*

FELLOWSHIP EXAMS TO BE OFFERED TWICE A YEAR

Beginning in fall 2011, all FSA exams will be administered in the spring and fall of each year. We believe this will offer numerous benefits to both candidates and employers. Candidates will be able to: take the exams in a recommended order; focus on a particular exam until it is passed, rather than alternating between two exams; and take the final exam again in six months, rather than one year later, if they are unsuccessful the first time. Employers may also see advantages including exam choice options for candidates and availability of better sequenced learning, leading to more robust knowledge and reduced travel time through the FSA-level requirements. Learn more by visiting *www.soa.org/fellowship-exam.*

SOA EDUCATIONAL OPPORTUNITIES

SOA '10 HEALTH MEETING
June 28–30
Orlando, FL

45TH ANNUAL RESEARCH CONFERENCE
June 26–28
British Columbia

INTERNATIONAL FINANCIAL REPORTING FOR INSURERS: IFRS AND U.S. GAAP
Aug. 30–Sept. 1
Hong Kong

PRODUCT TAX SEMINAR
Sept. 13–14
Washington, DC

VALUATION ACTUARY SYMPOSIUM
Sept. 20–21
Chicago, IL

DI & LTC INSURERS' FORUM
Sept. 22–24
Orlando, FL

SOA 2010 ANNUAL MEETING & EXHIBIT
Oct. 17–20
New York, NY

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

SOA LAUNCHES NEW RESEARCH PILOT PROJECT

In February 2010, the SOA Board approved a pilot project to strengthen the SOA's ability to provide timely, focused and relevant research to the public. Using the retirement practice area as a starting point, the "rapid research" pilot project will focus on developing relevant research on retirement plans by giving the SOA the in-house capability to model plans and provide research results more quickly than is currently standard with longer-term research projects.

There has been a growing consensus within the actuarial profession's leadership that the profession needs to strengthen its capabilities to provide research and analysis that is responsive to important issues of immediate public, social or media interest. The actuarial profession has a unique and valuable perspective to provide on such issues, but it sometimes lacks hard data and research necessary for timely modeling and analysis of issues. Learn more about the Rapid Research Pilot by going to *www.soa.org/rapid-research*.

LET US HEAR FROM YOU.

Go to *https://soa.wufoo.com/forms/the-actuary-junejuly* and let us know which topics you would be interested in seeing covered on the SOA Blog.

SOA MARKET RESEARCH REVEALS UNTAPPED OPPORTUNITIES IN HEALTH PRACTICE AREA

Executives in the health care industry are much more interested in hiring actuaries who have health care expertise, the recently completed research showed. The findings also revealed that health actuaries who have taken nontraditional paths in their careers have generally taken the initiative and risk to seize new opportunities and that the health care industry as a whole struggles to find people with the same "big picture" business skills that many actuaries seek to develop. In addition, the research found that strategic thinking, problem solving, decision making and written and oral communication top the list of important skills for professionals who work in health care analytics and forecasting. Also, the health care industry is seeking people with certain skills that tend to be very strong in health actuaries, such as financial acumen, knowledge of health systems and financing and knowledge of policy and regulation.

The findings are the result of interviews with health actuarial leaders in traditional and nontraditional roles, health care executives who are not actuaries and health care executives, recruiters and hiring managers in various traditional and nontraditional health care companies. The full report is posted on the Health Section Web page on *SOA.org* and three sessions at the SOA Health Meeting in June will expand on various implications of the market research.

THE ACTUARIAL PROFESSION IN THE NEWS

Transamerica Reinsurance Names FSA CRO The company appointed Larry Moews to senior vice president, chief actuary and chief risk officer.

***New York Times* Quotes FSA** A piece on public pension funds featured Carl Hess.

***CFO.com* Interviews FSA** The site quoted Robert Tate for a piece on health care costs.

***National Public Radio's* "Morning Edition" Features Actuary** NPR included Kevin Bingham on a discussion on how the health care bill would apply antitrust laws to insurance.

***New York Times* Quotes FSA** The Times interviewed Jack Luff for a column on the odds of becoming disabled.

***National Underwriter P&C* Features ERM Essay by FSA** Prakash Shimpi penned a piece on the need for companies to adopt enterprise risk management.

***National Public Radio* Interviews FSA** "All Things Considered" featured Karen DeToro in a piece on working as an actuary, recently rated top U.S. job.

To view all of these articles, visit *www.imageoftheactuary.org* and click on Actuaries in the News.

Attend the **SOA '10 Health Meeting**, where we've lined up engaging speakers, thought–provoking sessions and plenty of networking opportunities. You'll get **cutting-edge** information, be **inspired** by professionals from different areas of actuarial expertise and learn **new ways** to further your career.

Learn more at **http://HealthMeeting.soa.org.**

SOA 2010
HEALTH MEETING

Actuaries
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The Actuary

SOA 2010

Annual Meeting & Exhibit

Oct. 17-20, 2010
Hilton New York
New York, NY

Join us at the **SOA 2010 Annual Meeting & Exhibit: Fresh ideas. Innovative seminars.** Top-notch speakers. Plus—oodles of networking opportunities. We're heading to New York—a city on the move. Vibrant. Electric. And we plan to infuse that energy into this year's meeting.

Check out what we have in store:

- General Session Keynote Speaker Ted Koppel—yes, we said Ted Koppel—the guy who has given us years of insight into the biggest news stories of our time and who is currently offering his take on current events as an NPR news analyst.
- Presidential Luncheon Keynote Speaker Paul Embrechts, the risk management guru who, when he's not working as professor of mathematics at the ETH Zurich, keeps busy working on international advisory groups, consulting to major financial institutions on quantitative risk management issues and authoring books like "Quantitative Risk Management: Concepts, Techniques and Tools."
- more than 100 sessions offering you professional development opportunities and greater interaction, participation and takeaways.
- cutting-edge research presentations and discussions.
- networking opportunities to make those important connections.
- exhibitors giving you a look into their latest and greatest offerings.
- exclusive sponsorship opportunities, providing your company a chance to connect with a valuable target audience.

Be there—in the city that doesn't sleep. Learn more at www.soaannualmeeting.org.

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