



ISSUE 69 MAY 2012

Health Watch

1 The Medicare Advantage 5-Star Rating Program and Its Implications for Actuaries

By Gabriela Dieguez, Brad Piper, and Adrian Clark

2 Letter from the Editor

By Mary Van der Heijde

3 Chairperson's Corner

By Kevin Law

10 Dental Coverage and the ACA

By Laurence Weissbrot

14 Soundbites from the American Academy of Actuaries' Health Practice Council

By Heather Jerbi and Tim Mahony

19 Health Actuaries and the Short-term Prediction Problem

By Kurt Wrobel

23 Recently Adopted Strategy Charts a New Course for SOA Research

By Steven Siegel

25 Health Care (Pricing) Reform

By Syed Muzayan Mehmud

29 Pricing Issues Resulting from Budget Setting and Stoploss in ACO Arrangements

By Anthony Rubiano

The Medicare Advantage 5-Star Rating Program and Its Implications for Actuaries

By Gabriela Dieguez, Brad Piper, and Adrian Clark

The introduction of a five-star quality rating system by the Affordable Care Act (ACA) will lead to important changes in the Medicare Advantage (MA) market. Starting in 2012, the Centers for Medicare and Medicaid Services (CMS) payments to MA organizations are linked to their quality ratings. The financial implications are substantial, and ignoring them is not a wise long term strategy for any MA organization. Actuaries can help organizations understand and assess the financial implications and evaluate strategies to remain profitable.

Determining Medicare Advantage Revenue

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 established the Medicare Advantage (MA) program. MA organizations contract with CMS to provide their Medicare-eligible enrollees with benefits that are at least as rich as traditional Medicare Parts A and B (commonly referred to as "Part C"). MA organizations may also offer prescription drug benefits (Part D) alone or in combination with medical benefits. In return, they receive revenue from CMS to fund their benefit offerings.

MA organizations must submit an annual bid to CMS for each benefit plan offered. The bid is a projection of the plan's cost to provide Medicare-covered benefits (including adminis-

CONTINUED ON PAGE 6

Letter from the Editor

By Mary van der Heijde



Mary van der Heijde, FSA, MAAA, is a principal and consulting actuary at Milliman Inc in Denver, Colo. She can be reached at mary.vanderheijde@milliman.com.



Correlation does not imply causation. Mention this to an actuary, and they will agree. I think as actuaries, we have a strong sense of how to make appropriate inferences from data. As more eyes are focused on the health care market and on the impact of the changes post-2014, there is a need to discern meaning from data in a much broader sense than in the recent past.

Try these on for size: People who eat diet food weigh more than the average person, therefore diet food must cause weight gain. Uninsured Americans incur lower health claims than the average person, therefore they must be healthier than average. Are these items correlated? Sure. Are they causal? Not necessarily.

We are surrounded by these kinds of inferences and conclusions in the daily sound bites covering health care reform. Whether we are in favor of or opposed to the changes caused by health care reform, we are in a unique role to help identify inaccuracies in the way information is being interpreted. Many of us have probably read “How to lie with statistics” or other similarly entertaining books, about the power that misrepresentation of information can have. Information is power, and we have the ability to help accurately interpret and distribute better information.

Along these lines, in “Soundbites from the Academy,” Heather Jerbi and Tim Mahony describe the recent efforts the Academy’s Health Practice Council (HPC) has undertaken to create 2012 campaign toolkits to provide non-partisan input about Medicare and the ongoing implementation of the Affordable Care Act (ACA). These toolkits were developed for members of the Academy to use to deliver accurate, objective information about health care related issues within our communities. The toolkits include standard slide decks as well as other Academy issue briefs and policy statements. They will include voter guides, which will

highlight key facts and issues voters should be considering.

Also in this issue, Kurt Wrobel discusses some of the inherent challenges actuaries face by needing to make predictions within a short time period, and his thoughts about how to address those issues. We have included an article about the actuarial implications of the Medicare five-star rating system. Gabriela Dieguez, Brad Piper, and Adrian Clark discuss the significance of this program, and provide input about key considerations related to this system. We have also included an article by Laurence Weissbrot about the impact of ACA on dental coverage.

In this issue’s “Chairperson’s Corner” feature, Kevin Law shares information about the upcoming SOA Health ‘12 meeting in New Orleans, discusses some recent work to increase collaboration with our Canadian colleagues, and provides an update on the latest research from the Health Actuarial Research Initiative (HARI).

The SOA has adopted a new strategy and approach for sponsoring research. In this issue, Steve Siegel provides us with an update about the changes, as well as the conclusions which led to these changes.

Congratulations to the two winners of the Health Care Reform Implementation Pricing Methods Contest, sponsored by the Health Section of the SOA. The first place prize went to Syed Mehmud, for his article about challenges and innovations related to pricing in this reform environment. The second place prize went to Anthony Rubiano, for his article about pricing issues which are a result of budget setting and stoploss within the context of Accountable Care Organization (ACO) arrangements. We have included both winning articles in this issue.

We hope this issue includes topics which are interesting and valuable for you, and appreciate your thoughts and comments. ■

Chairperson's Corner

By Kevin Law

It is an exciting and interesting time to be in the health actuarial field. We are now about 20 months away from the January 2014 implementation of the state based health insurance exchanges which, along with the subsidies, penalties and mandate, will dramatically reshape the health insurance market. Health plans and health insurance companies have been focused on developing strategies to compete effectively in the new environment and to comply with the Affordable Care Act's (ACA's) requirements.

All of this intense activity is taking place with the Supreme Court's decision on the constitutionality of the ACA looming on the horizon. The Supreme Court scheduled three days of oral arguments for March 26-28, with an election-year ruling expected by the end of June. That timing is close to the date of our SOA Health '12 meeting, which provides a convenient segue to discussing this event.

SOA Health '12 Meeting

Health '12 will take place June 13-15 at the New Orleans Marriott in New Orleans, La. The Health Section Council has been working hard since last October planning the sessions and lining up the presenters. It is not a small task as the council, along with our volunteer "Friends of the Council" group and our colleagues in the Health Disability Income special interest group are responsible for creating, developing and staffing 60 sessions. We believe there is a great slate of health topics and excellent speakers in store for attendees. While space does not permit describing the session specifics in this article, I would like to mention our three keynote speakers:

Tom Davenport is a world-renowned consultant and author of a series of business books. He will be speaking at the general session about analytics and decision-making.

Mary Milla is a communications expert and presentation skills trainer. Mary will speak at the general luncheon on Wednesday.

Paul Ginsburg, Ph.D., is president of the Center for Studying Health System Change (HSC). Founded in 1995 by Ginsburg, HSC conducts research to inform policymakers and other audiences about changes in organization of financing and delivery of care and their effects on people. Particularly known for his understanding of health care markets and health care costs, Ginsburg has been named eight times by Modern Healthcare as one of the 100 most influential persons in health care. Ginsburg will discuss the changes taking place in the health care system and the future outlook at Thursday's general luncheon.

New Orleans is an interesting city to serve as the venue for our health meeting. It offers superb restaurants and a variety of "extra-curricular" activities. The New Orleans Marriott is located on the edge of the French Quarter. I am certainly partial to New Orleans, as I lived and worked there for 25 years and consider the city to be my adopted hometown. We will not be chilled outside like we were in Boston last year. Mid-June average high temperatures in the Big Easy are 90°, with typical morning relative humidity of 90 percent. It will be early in hurricane season, so that should not be a concern.

Canadian Outreach and Collaboration

The Health Section is pleased to begin working with Joseph De Dominicis, who joined the SOA as staff fellow, Canadian membership. Joe's accountabilities include promoting SOA content that is relevant to Canadians and encouraging increased engagement in the SOA by Canadian members. Maureen Premdas has been selected to assume the role of "Canadian membership liaison" to the Health Section Council. Her primary responsibilities involve:

- contributing the Canadian perspective into the section's research, professional development events and other projects,

ISSUE 69 MAY 2012

Health Watch

Published by the Health Section Council of the Society of Actuaries.

This newsletter is free to section members. Current issues are available on the SOA website (www.soa.org).

To join the section, SOA members and non-members can locate a membership form on the Health Section Web page at <http://www.soa.org/health/>

2012 Section Leadership

Kevin Law, Chairperson

J. Patrick Kinney, Vice Chairperson
Donna Kalin, Secretary & Treasurer
Jon Hendrickson, Council Member
Sudha Shenoy, Council Member
Dewayne Ullsperger, Council Member
Karl Volkmar, Council Member
Ross Winkelman, Council Member
Greger Vigen, Council Member
Nancy Hubler, Council Member
Valerie Nelson, Council Member

Mary van der Heijde, Editor-in-Chief
ph: 303.299.9400
mary.vanderheijde@milliman.com

Editorial Board Members

J. Patrick Kinney
ph: 585.238.4379
Patrick.Kinney@excellus.com

Jeff Miller
ph: 913.707.0067
jeff@jdmfsa.com

Karin Swenson-Moore
ph: 206.332.6461
kmswens@regence.com

SOA Staff

Kathryn Baker, Staff Editor
ph: 847.706.3501 f: 847.706.3599
kbaker@soa.org

Kristi Bohn, Staff Partner
kbohn@soa.org

Jill Leprich, Project Support Specialist
ph: 847.706.3645 f: 847.706.3599
jleprich@soa.org

Julissa Sweeney, Graphic Designer
ph: 847.706.3548 f: 847.273.8548
jsweeney@soa.org

This publication is provided for informational and educational purposes only. The Society of Actuaries makes no endorsement, representation or guarantee with regard to any content, and disclaims any liability in connection with the use or misuse of any information provided herein. This publication should not be construed as professional or financial advice. Statements of fact and opinions expressed herein are those of the individual authors and are not necessarily those of the Society of Actuaries.

© 2012 Society of Actuaries. All rights reserved.

CONTINUED ON PAGE 4

- apprising the council of initiatives conducted by Canadian organizations, particularly the Canadian Institute of Actuaries, and
- identifying gaps in Canadian content that could be addressed by the Health Section.

We are looking forward to collaborating with our Canadian colleagues. This initiative will be beneficial to the section and its members, as it will increase our membership and volunteer base, expand the scope of section activities and enrich section content via the addition of a unique Canadian perspective.

Value of Health Section Membership

Speaking about enhancing the value of the Health Section leads to the benefits of belonging to our section. The council was surprised to learn during a recent meeting that there are a significant percentage of SOA members who identify “health” as their primary area of practice, but who do not belong to the Health Section. There are several tangible benefits of belonging to SOA sections:

- **Enhance personal brand** – Section memberships, which are shown in the online actuarial directory, indicate focus and interest in being on top of the latest breakthroughs in the field.
- **Access to information** – Section members have the opportunity to become aware of, and have convenient access to, the latest research, industry updates and practice news.
- **Network** – Breakfasts, receptions and events are available, often at a lower price.
- **Discounts** – In 2012, section members will receive a \$25 discount on one section-sponsored webcast.
- **Avenue for greater participation** – The section structure provides opportunities to volunteer, write, present and lead in an actuary's area

of interest, facilitating network building and name recognition within the profession.

- **Support overall profession** – Section dues, which are relatively low, support communications (newsletters and e-books) plus continuing education events and materials (meeting sessions, symposia, boot camps, webinars and podcasts). These resources produced for section members by volunteers and on small budget are quite phenomenal.
- **Enable research** – This has been an important focus for the Health Section as we believe it is a valuable service to provide to members. Over the last two years, our average annual research funding has been just slightly below \$100,000.

HARI Research

In addition to the Health Section's sponsored research, there are other significant health research initiatives underway. The Health Actuarial Research Initiative (HARI), announced in the May 2011 issue of *Health Watch*, is being funded by the SOA. Results of the first HARI project, a study of risk adjustment under health reform, are scheduled to be presented at Health '12.

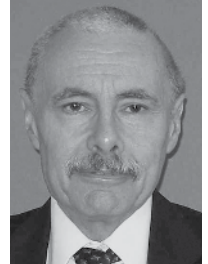
HARI's second project, “accountable care organizations: actuarial and risk issues,” is currently underway, with the final report expected during the summer.

Their third project will be a study of the health care costs of the uninsured, in order to clarify expectations for the new exchange-based market when a significant portion of this population becomes insured. Data will be obtained from several sources, including the new Health Care Cost Institute (HCCI) database created last fall. This database currently consists of health care claims data from four major health plans, including \$5 billion health care claim and utilization records and over \$1 trillion of health care claim dollars over several years. Dale Yamamoto is representing the SOA on HCCI's Governing Board and Scientific Review Committee.

Thanks to Our SOA Health Staff Fellow

Finally, on behalf of the entire Health Section Council, I would like to express sincere thanks to Sara Teppema, who has held the position of SOA

health staff fellow for several years. Sara has been promoted to senior staff fellow, practice research at the SOA and we wish her much success in the new position. Sara has been an invaluable SOA resource and a tireless supporter of the Health Section. ■



Kevin Law, FSA, MAAA, is manager, actuarial services at Highmark Inc. in Pittsburgh, Penn. He can be reached at Kevinlaw@highmark.com.

SOCIETY OF ACTUARIES

App Idea?

Share it and you could win an iPad!

The SOA's Technology Section is sponsoring an "Apps for Actuaries" contest.

Ideas could include an app that:

- Serves a clear function for actuaries or actuarial students
- Serves a function for business or financial services
- Is original
- Works well regardless of platform

These are just examples—use your imagination!

Entering is easy. Just fill out the contest form on <http://appsforactuaries.org/App-Idea-Contest>



trative expenses and profit) to its Medicare-eligible members. Bids reflect a population’s geography and its relative health status (commonly referred to as a “risk score”). Bid amounts are compared to the CMS-published benchmark payment rate (adjusted for area and risk score) to determine CMS revenue for the plan.

Every year, CMS determines the benchmark payment rate for each county based on historical fee-for-service (FFS) costs. The benchmark payment rate is the maximum that CMS will pay an organization to provide traditional Medicare benefits in a given county. Plans that span multiple counties receive the membership-weighted average benchmark payment rate. CMS uses a risk adjustment model to account for the varied health status of the Medicare Advantage enrollees. The plan-wide benchmark payment rate is therefore multiplied by the plan’s expected risk score to determine the maximum payment rate from CMS for each plan.

The CMS revenue that a plan receives depends on the bid and MA benchmark payment rate amounts. Plans that bid under the benchmark (which is what commonly occurs) also receive a portion of the difference (“savings”) as a “rebate” from CMS. This rebate is not profit—it must be used to provide additional benefits, reduce member cost sharing, or reduce member premiums, all of which create competitive advantages. If the value of the benefits

offered exceeds the CMS revenue, the MA plan charges the difference to members as a premium.

How does the five-star rating system impact CMS revenue?

As part of the ACA, CMS introduced a quality bonus payment (QBP) for MA organizations. Under this initiative, each MA contract receives a quality star rating from 1 to 5, at half-star increments. All plans (i.e., benefit offerings) under a single MA contract receive that contract’s quality star rating. MA organizations that operate different contracts have separate quality ratings for each contract. For example, an organization that has three plans under one contract will have only one rating.

Plans receive a bonus payment based on their quality star rating equal to a percentage increase in the plan-wide benchmark payment rate¹. This bonus payment increases the CMS revenue that a plan will receive. The bonus payment percentages by star rating are shown in the table in Figure 1.

The percentage of the savings a plan receives (i.e., the rebate) also depends on the contract’s quality rating. The bonus payment and rebate percentage are combined in the bid process to determine the expected CMS revenue for each MA plan. The rebate percentages by star rating are shown in the table in Figure 2.

Figure 1
Quality Bonus Payment by Star Rating

YEAR	2.5	3.0	3.5	4.0	4.5	5.0
2012	0.0%	3.0%	3.5%	4.0%	4.0%	5.0%
2013	0.0%	3.0%	3.5%	4.0%	4.0%	5.0%
2014	0.0%	3.0%	3.5%	5.0%	5.0%	5.0%
2015+	0.0%	0.0%	0.0%	5.0%	5.0%	5.0%

Figure 2
Rebate Percentage by Star Rating

YEAR	2.5	3.0	3.5	4.0	4.5	5.0
2012	66.7%	66.7%	71.7%	71.7%	73.3%	73.3%
2013	58.3%	58.3%	68.3%	68.3%	71.7%	71.7%
2014+	50.0%	50.0%	65.0%	65.0%	70.0%	70.0%

Special rules apply to low-enrollment and new contracts for assigning a quality star rating. In 2012, low-enrollment contracts receive a 3-star bonus payment and a 4.5-star rating for rebate purposes (in 2013, the rebate star rating is reduced to 3.5). New contracts under existing MA organizations are rated using the member-weighted average quality star rating across all of the organization’s rated contracts. New contracts under new MA organizations receive a 3-star rating for bonus payment and a 3.5-star rating for rebate percentage in 2013.

How are CMS star ratings calculated?

The star rating system impacts CMS revenue only for plans offering Part C benefits, whether medical

only (MA-only plans) or medical and prescription drugs combined (MA-PD plans). The star ratings do not impact Part D revenue.

The QBP rating is the final score that impacts an organizations' revenue, and is equal to the overall rating for existing contracts that don't have low enrollment (see above rules for low-enrollment or new contracts). The overall rating, in turn, is calculated as the weighted average of the Part C and Part D summary ratings, plus an "i-Factor." The i-Factor is a sophisticated statistic designed to reward contracts with both high and stable relative performance. The i-Factor is calculated as an add-on to the summary and overall ratings based on a combination of the mean and variance of a contract's stars across measures.

For an MA-only contract, the Part C summary rating is also the overall rating. Likewise, the Part D summary rating is the overall rating for a contract with only stand-alone prescription drug plans (PDP). Note, however, the Part D summary rating currently does not impact the revenue of a PDP plan. The MA-PD overall rating is calculated as the weighted average of the individual Part C and D measures. In 2012, there were a total of 53 individual measures, described at a high level as follows.

For the 2012 ratings, the Part C summary rating consists of 36 individual measures, which are categorized into five separate domains. The domains are as follows:

1. Staying Healthy: Screening, Tests and Vaccines
2. Managing Chronic (Long-Term) Conditions
3. Ratings of Plan Responsiveness and Care
4. Member Complaints, Problems Getting Services and Choosing to Leave the Plan
5. Health Plan Customer Service

The 2012 Part D summary rating consists of 17 individual measures for a Medicare Advantage Prescription Drug (MAPD) plan and the same 17



measures for a PDP, which are categorized into four separate domains. The domains are as follows:

1. Drug Plan Customer Service
2. Member Complaints, Problems Getting Services, and Choosing to Leave the Plan
3. Member Experience with Drug Plan
4. Drug Pricing and Patient Safety

Plan measures cover five broad categories: outcomes, intermediate outcomes, patient experience, access, and process measures. Beginning with the 2012 star ratings (which will be used to determine the QBP rating for the 2013 bids), outcomes and intermediate outcomes received three times the weight as process measures. Patient experience and access measures are weighted 1.5 times as much as process measures. Thus, some categories have more influence on the final average score than other categories.

Not all contracts will receive a rating for every measure. For example, contracts with low enroll-

CONTINUED ON **PAGE 8**

The star ratings and QBP's will have a substantial impact to the Medicare Advantage market.

ment or inadequate data will not be rated on some measures. Also, rounding rules can play a role in a contract's final overall rating.

On Dec. 20, 2011, CMS published proposed changes to the 2013 plan rating methodology that would impact the 2014 bids. Final guidance is anticipated to be published in the final 2013 call letter, expected by April 2, 2012. An interesting proposed change in the announcement pertains to a new proposed measure of "statistically significant" quality improvement. This new measure would reward plans that show gains in annual star ratings. CMS also indicated that they are considering how this measure would be applied to plans that are already achieving high scores across most measures.

Implications for actuaries

The star ratings and QBP's will have a substantial impact to the Medicare Advantage market. The changes described in this article are already impacting the revenue received by MA organizations, and will continue to do so. Actuaries are in a unique position to analyze and communicate the impact of these changes. In particular, actuaries involved with MA products should consider the following:

- *You can't manage what you can't measure.*

It seems sensible that the first step to improving a contract's star rating is to first understand which components are driving the result.

- *Not everyone can be better than average.*

Because many of the cut points for the component measures are based on distributions of plans' actual experience, even if the measure stays the same from one year to the next, simply improving your organizations performance may not translate into a higher star rating. While improvement without payoff can be frustrating, this dynamic also underscores the importance of simply improving.

- *Financial modeling can help assess the impact on the MA product's profitability.*

A revenue and expense projection for the next three to five years under different star rating scenarios can illustrate the impact of the QBP system on the product's profitability. Sensitivity testing around the star rating assumption can indicate what star rating level needs to be achieved, and by when, to operate profitably. This analysis would also illustrate the consequences to an organization of not achieving a target quality score: besides reduced profits, reduced CMS revenues generally mean leaner benefits or higher member premiums, which can harm competitiveness.

Financial modeling should include separate trends for revenue and benefit costs, as the interrelation of these can have a significant impact on the results, especially if CMS revenue does not increase as fast as benefit expenses. Results from this modeling can also be used to inform cost/benefit analysis for proposed initiatives aimed at improving a contract's star rating.

- *The benefits of increasing a contract's star rating are not linear, and generally depend on the current star rating and the level of improvement.*

Improvements in the quality star rating result in additional quality bonus payments, but the mag-



nitude of the impact varies. As shown in Figure 1 for 2013 there is only a 0.5 percent increase to the QBP when moving from 3.5 to 4 stars (from 3.5 percent to 4 percent bonus). When moving from 4.5 to 5 stars, however, there is a 1 percent increase to the QBP (from 4 percent to 5 percent). There is no change in the QBP when the star rating increases from 4 to 4.5 (both have a 4 percent bonus).

Improvements in the quality star rating also increase the rebate percentage, resulting in stepwise increases in rebate revenue. However, this portion can be relatively small, because the rebate percentage only applies to the portion of the Part C benchmark that exceeds the bid. For a plan with a bid that is within a few percentage points of the benchmark, moving from 3.5 stars to 4 stars in 2013 will likely have a greater impact (a 0.5 percent QBP increase, from 3.5 percent to 4 percent, but a 0 percent increase in rebate percentage) than moving from 4 stars to 4.5 stars (a 0 percent QBP increase, but a 3⅓ percent increase to the rebate percentage, from 68⅓ percent to 71⅓ percent).

- *Five-star plans can benefit from year-round enrollment*

It may appear that, by 2014, there is little benefit to achieving a 5-star rating, because the quality bonus payment (Figure 1) is the same for all star ratings at or above 4.0, and the rebate differences (Figure 2) are relatively minimal. However, CMS awards organizations achieving a 5-star rating with the additional benefit of year-round enrollment.

Typically, members elect their Medicare Advantage plan during the annual enrollment period (mid-October through early December). However, members enrolled in a 4.5-star plan or less can disenroll from their current plan and join a 5-star plan in the same service area throughout the year, due to a special enrollment period created for 5-star plans. This important “reward” could be a valuable tool for organizations looking to grow their membership. By analyzing the cost it would take to achieve a 5-star rating and the potential membership gains that are possible, actuaries can assist an organization in determining if it is advantageous to put resources toward achieving the 5-star rating.

- *A small increase in revenue can be a significant advantage in a competitive market.*

In certain competitive markets, achieving an extra 1 percent of revenue over competitor organizations may be just enough to offer an extra benefit or lower premium to make an MA product more attractive.

- *The lag between experience, reporting, and quality rating has additional implications for new and existing plans.*

Star ratings for a given plan year are based on relatively lagged data. For example, star ratings for the 2013 plan year were released in October 2011, and were based on data from 2010 and 2011. This long data lag means that existing plans must work diligently now to improve their star rating, which will impact the 2014 plan year at the earliest.

Low-enrollment plans and new contracts under new MA organizations will receive “default” bonus payments in 2013. However, these plans must also work quickly to achieve a relatively high star rating (as opposed to operating under the default star rating) as these incentives may disappear by 2015.

- *Improvement is a proposed new measure.*

Based on draft guidance, CMS may include a new measure that rewards statistically significant improvement. This provides additional incentives for quality improvement and could help some contracts gain additional revenue through a higher star rating.

Caveats

The opinions expressed are those of the authors and do not reflect that of their employer. No part of the content of this article should be viewed as being endorsed by their employer. ■

END NOTES

- ¹ For certain counties, this percentage is doubled.



Gabriela Dieguez, FSA, MAAA, is a consulting actuary at Milliman in New York City. She can be reached at gabriela.dieguez@milliman.com.



Bradley Piper, FSA, MAAA, is an actuary at Milliman, Inc. in Milwaukee. He can be reached at brad.piper@milliman.com.



Adrian Clark, FSA, MAAA, is a Consulting Actuary at Milliman, Inc. in Seattle. He can be reached at clark@milliman.com.

Dental Coverage and the ACA

By Laurence Weissbrot



Laurence R Weissbrot, FSA, MAAA is director, Actuarial & Underwriting at Northeast Delta Dental in Concord, N.H. He can be reached at lweissbrot@nedelta.com.

Some readers may be concerned about the effect of the Affordable Care Act (ACA) on dental benefits. Under the ACA, Dental is an “excepted benefit.” The Act doesn’t apply to Dental. Well, not so fast!

How important is one person’s life? In the grand scheme of things, what difference can one person make? If that person is 12-year-old Diamonte Driver, he can make a lot of difference. Diamonte had an abscessed tooth, but he did not have dental insurance, and his family had lost their Medicaid coverage. His mother could not find a dentist to see her children. By the time emergency room doctors saw Diamonte for headaches it was too late, and the Prince Georges County, Md. boy died after two brain surgeries.

When Congress was debating health care reform, stories such as this one were part of the decision to make pediatric dental benefits one of the essential benefits that any medical plan sold on the new health insurance exchanges must cover. The problem for the stand-alone dental benefits industry (Delta Dental, Guardian, etc.) is that in the private market (not including public programs), roughly 98 percent of Americans with dental coverage today have a dental benefit policy separate from their medical policy. Only about 2 percent of Americans get their medical and dental policies integrated (or embedded) into one policy from the same carrier or benefits administrator. If families (individuals and small groups) begin purchasing their medical from public exchanges, and if the medical already contains the mandatory pediatric dental benefits, these families might not venture outside the exchanges to buy dental coverage for the adults, or they might not look further for adult coverage on the exchange.

The National Association of Dental Plans (NADP) and the Delta Dental Plans Association (DDPA) approached Senator Debbie Stabenow of Michigan to propose an amendment to the ACA that would allow dental benefits plans to be sold on health care exchanges on a stand-alone basis, i.e., not bundled into a medical plan.

Under the ACA, states will have the power and authority to form their own exchanges, band together in a regional exchange, or do nothing and have the federal government provide the exchange for them. So it is up to each state to decide whether stand-alone dental will be:

- 1) not allowed to be sold on its exchange,
- 2) allowed to be sold on its exchange, or
- 3) not allowed to be sold anywhere but on its exchange.

Furthermore, as long as there is at least one carrier selling dental on the exchange, medical carriers can sell plans that do not include the pediatric dental benefit—as long as the person visiting the exchange to buy medical also buys a dental plan that covers at least the essential pediatric dental benefits.

Also, where customers may buy dental either separately from medical or bundled with the medical, it is up to the state to determine whether the pricing of the bundled dental must be transparent to the purchaser, allowing the purchaser to compare benefits and costs when purchasing the products separately or together.

Finally, the ACA contains a definition of “small group” for purposes of being allowed or required to purchase health insurance from exchanges. In 2014, it may be groups either under 50 employees or under 100 employees. In 2016 a “small” group will be under 100 employees. Beginning in 2017, states will have the option to extend exchanges to large employers. Current surveys of large employers reveal no plans to drop medical and dental as employee benefits, but things could change (such as the tax treatment of such benefits to the employer and the employee.)

This brings me back to the importance of Diamonte Driver’s life, or death. Under several of the exchange scenarios listed above, the stand-alone dental benefits industry could simply cease to exist. If dental had truly remained an “excepted benefit,” there would be no concerns to dental from the ACA.

My company, Northeast Delta Dental, operates in three states: Maine, Vermont and New Hampshire. These three states probably represent the full range of what states are doing about health care reform. We are in close touch with the legislatures in all three states, and are closely following the debates.

In Maine, both versions of proposed legislation currently being considered in a legislative committee would allow citizens to buy dental on the exchange by itself or as part of a medical plan. Those concerned with consumer rights are advocating that bundled plans be priced separately to allow consumers to make apples to apples comparisons of the available products. This would allow the market to continue the current situation, previously cited, that 98 percent of dental plans are sold separately now. If part of a medical plan, the benefits and costs must be broken out to be transparent to the purchaser. A medical plan that does not include dental still meets the requirements of providing the essential benefit if a buyer can purchase a dental plan separately to cover the essential pediatric dental benefit. The bill is silent as to whether consumers may purchase the separate dental on or off the exchange.

In Vermont, they don't believe the federal government has gone far enough; they passed a law last year to create an exchange en route to universal, single-payer health care to become effective in 2017. In the mean time, they are moving forward with their exchange, which will allow dental to be provided either as part of a medical plan or as a stand-alone benefit plan, as long as it covers the essential pediatric benefit. Existing law and pending legislation are silent as to whether carriers can offer the separate dental benefit off the exchange. The administration is proposing that individuals and small groups may purchase medical ONLY through the exchange. Here is where the definition of "small group" becomes important. The entire population of Vermont is under 650,000, and if they define "small employer" as groups up to 100 employees, beginning in 2014, 98 percent of the employers in the state will have only one source of purchasing health insurance: the exchange. Since they plan to limit the number of health carriers that may sell on the



exchange, this goes a long way toward implementing the single payer idea.

That brings us to New Hampshire. Various medical, dental and consumers' rights stakeholders, plus the Department of Insurance, crafted an exchange bill in the Senate that would have allowed carriers to sell stand-alone dental on the exchange. That bill has been tabled and will probably never see the light of day. At the same time, the New Hampshire House of Representatives has proposed a bill that would bar the state from having anything to do with creating a health exchange under the federal health care reform law. If New Hampshire does not pass a law setting up an exchange and does not take other significant steps by Jan. 1, 2013, New Hampshire will default to a state exchange run by the federal government. Unless the Supreme Court finds the ACA (or at least the provisions that require each state to establish an exchange) unconstitutional, the federal government will run New Hampshire's health exchange. The Supreme Court is hearing arguments by the end of March, with decisions due by end of June, so some of the uncertainty may be resolved by July.

Throughout this article I have referred to "dental benefits" not "dental insurance." To be insurable, a risk must be of low frequency, high economic impact, and out of the control of the insured. Dental fails all three criteria. It works as "insurance" in the group benefits market because it enjoys the double tax exemption of health benefits: the employer can

CONTINUED ON **PAGE 12**

Carriers will face a challenge designing products that control antiselection, provide a meaningful benefit, and help promote good oral health.

deduct the premium as a business expense and the employee does not have to report the value as a taxable income item. Individuals buying pre-paid dental benefits on exchanges will not have these same advantages. The question becomes whether the expense load is greater than or less than the network discount available from the carrier. There is another benefit to being “insured” for dental: 75 percent or more of the people who have dental coverage see their dentists on a regular basis. Fewer than 50 percent of people without dental coverage do so. So part of the challenge in selling dental benefits to individuals will be in making them understand it is important to see a dentist regularly (it is!) and without the benefit, they probably won’t do so.

What about benefit design? Group dental benefits most commonly sold include varying coinsurance percentages, an annual deductible, and a maximum benefit. The deductible is a cost sharing mechanism between the employer and the employee. Does a deductible make sense when the insured is paying the entire premium? Typical coinsurance levels might be 100 percent for preventive and diagnostic services (cleanings, radiographs, evaluations), 80 percent for basic restorative services (fillings, endodontics, periodontics, oral surgery), and 50 percent for major restorative services (crowns, bridges, dentures). Coinsurance levels also share cost, but more importantly they provide an incentive for the patient to see the dentist at least once a year for preventive services. This helps find problems before they become major expenses.

Another problem is price. Group dental offered by employers helps attract and retain employees, and is a valued employee benefit. When offered on a voluntary basis (the employee pays the whole cost) it suddenly loses some of its importance, and only 25 percent or less of the employee population buys it. We are about to enter a world where purchasers will buy some or much or most or all of our products on a website modeled after Priceline. Will they—can they—differentiate based on brand, quality, customer service, network, exclusions and limitations, etc., or will they simply look at price? To sell to individuals may require a product price at or below \$50 per month per person. A typical group dental plan that

covers 100 percent preventive, 80 percent basic, 50 percent major, 50 percent orthodontia, with a \$50 deductible and a \$1,500 calendar year maximum costs more than \$50 per month per person. That means products sold on exchanges must provide benefits that cover less than the average group plan, through lower coinsurances, higher deductibles, service exclusions, or some combination. This brings us back to the “insurance” question. Because the timing of receipt of dental benefits is so much under the control of the insured, the antiselection associated with dental is a serious problem when sold in the individual market. Carriers will face a challenge designing products that control antiselection, provide a meaningful benefit, and help promote good oral health.

We are facing interesting times! ■

JUNE 13-15, 2012

NEW ORLEANS MARRIOTT

NEW ORLEANS, LA



SOA 2012 HEALTH MEETING



Mark your calendar and plan to attend the 2012 Health Meeting. We're heading to the Big Easy—and planning more topical sessions to provide you with the latest updates on important health issues. Expect top-notch speakers and plenty of networking events—and the opportunity to earn lots of CPD credit. There'll be plenty to see and do in New Orleans while you're there: Chill out in a blues or jazz club; check out the city's well-known architecture; take a riverboat tour or carriage ride; or—head to the outskirts to see sprawling plantations and the incredible wildlife.

Here's what last year's attendees had to say:

"Thought provoking and extremely worthwhile." "Gained great industry insight!"

"Excellent content and thoughtful delivery." "Ample opportunities to earn professionalism credit."

"Sessions were great! Loved the smaller groups and wide range of topics!"

<http://HealthMeeting.soa.org>

Soundbites

from the American Academy of Actuaries' Health Practice Council Activities

By Heather Jerbi and Tim Mahony



What's New

Every four years brings Leap Day, the Summer Olympics, and a U.S. presidential election. Although the actuarial profession doesn't have any particular insights into the first two events, we can provide a unique perspective on issues relevant to the presidential campaigns. It is often difficult for voters to sift through the various campaign promises, political rhetoric, and potentially misleading information dominating the headline news. The actuarial profession can provide objective information and technical expertise to both candidates and the public.

To this end, the Academy's Health Practice Council (HPC) has begun the task of creating 2012 campaign toolkits on health policy related issues, including Medicare and the ongoing implementation of the Affordable Care Act (ACA). These toolkits are designed to provide Academy members across all practice areas with the tools necessary to deliver objective information about health care-related issues within their own communities. They include a standard PowerPoint slide deck that can

be used to present information on a relevant subject, notes to assist members with crafting public presentations, and Academy issue briefs and other policy statements that can be handed out or used to enhance the presentation. The toolkits also will include voter guides that highlight the key facts about the relevant subject and suggest questions to consider when evaluating various proposals by candidates.

The Academy published the first toolkit in November. It focuses on Medicare's financial condition and provides an overview of the basic structure of Medicare, the challenges to the program's solvency and sustainability, and options that have been proposed to reform the program. Containing the same types of educational material that the HPC shares with policymakers, it is formatted in a way that can be easily communicated to the general public via community associations and or local media outlets. Future toolkits will be released on topics related to the ACA and health reform topics in general.

For the Academy, the goal of informing the general public begins with informing our own membership. As such, the HPC has hosted two recent webinars that were intended to provide actuaries across practice areas with some basic information on both Medicare and the ACA in general. In addition, the webinars highlighted the activities in which the HPC has engaged to educate policymakers and regulators on the actuarial implications of proposals to address Medicare's financial condition and rules designed to implement the ACA. The first webinar in December, which attracted more than 1500 actuaries, focused on Medicare and went over much of the information that is included in the campaign toolkit. The second webinar in February focused on the coverage expansion and market reform provisions in the ACA. More than 1800 actuaries attended the webinar, which provided information on the uninsured and pre-reform markets, highlighted many of the key provisions in the ACA that expand coverage, and discussed the implementation status of five provisions of particular interest to actuaries (MLR, rate review, actuarial value, essential health benefits, and risk-sharing mechanisms).

In addition to the new campaign toolkits and these webinars, members also can access our other publications that address a variety of health-related policy issues. The following publications represent a sampling of some of our most recent (as of the time this article was written) communications to Capitol Hill, HHS, CMS, and the NAIC.

Amicus Brief

In November, the U.S. Supreme Court announced that it would hear a challenge to President Obama's health reform law. The court said it would consider arguments relating to the ACA including: whether the individual mandate is constitutional, and if not, whether that affects the feasibility of other provisions of the law; whether the challenges have standing to contest the law (under the Anti-Injunction Act); and whether the expansion of the Medicaid program is constitutional. The court is expected to hear arguments at the end of March, with a final decision expected in June.

In January, the Academy filed an amicus curiae brief¹ with the court on the question of whether to overturn a lower court ruling that the individual mandate could be "severed" from the guaranteed issue and modified community rating provisions in the ACA. The Academy's brief provides actuarial input to the court on the consequences of severing the mandate—should it be invalidated by the court—and allowing the market reforms to remain in effect. It addresses the adverse selection that would result if the mandate were severed from the guaranteed issue and modified community rating provisions, noting that it would lead to lower participation and higher health insurance premiums. This point consistently was made by the Academy during the deliberations on the health reform legislation—that along with any market reforms, mechanisms to ensure a broad cross-section of enrollee participation was necessary. The Academy did not take a position on the law itself, on the constitutionality of the mandate, or whether the mandate is severable from any provisions in the law other than those related to guaranteed issue and modified community rating.

MLR

On Feb. 14, the Academy's Medical Loss Ratio Work Group sent a letter² to CMS regarding its exposure draft of the annual MLR reporting form. The letter outlined concerns with excluding duration-related contract reserves from the MLR calculation.

On Feb. 8, the SOA and the Academy jointly sponsored a webinar: Medical Loss Ratios—Final Regulations and Repercussions for the Health Insurance Marketplace. More than 225 actuaries attended the webinar, which addressed the differences between the interim and final regulations for MLR reporting and rebates, insurer experiences to date, areas of uncertainty in MLR and rebate calculations and how regulators may respond, and implications for 2014 and beyond.

Actuarial Value

On Jan. 31, the council's Actuarial Value Subgroup sent a comment letter³ to the Assistant Secretary for

CONTINUED ON **PAGE 16**



Planning and Evaluation (ASPE) at HHS providing comments on its research brief, *Actuarial Value and Employer-Sponsored Insurance*. The letter addresses the effect differences in levels of coverage between large and small employers can have on actuarial value and the effect different models, methods, and data can have on the calculation of actuarial values. The letter also encourages potential additional analysis that would provide insight on how AV can vary based on employer size, plan type, and insurance status.

Rate Review

On Nov. 1, the Academy's Premium Review Work Group sent a letter⁴ to the Massachusetts Senate regarding an amendment to the state budget bill that would require any disapproval of health insurance rates to be "supported by sound actuarial assumptions and methods." The amendment was vetoed by Massachusetts Gov. Deval Patrick, but was overridden in the Massachusetts House. The Senate's attempt to override the veto on Nov. 16 failed.

On an issue related to the implementation of the new rate review process under the ACA, in November

the HPC co-signed a letter⁵ with the Committee on Qualifications to the Arizona insurance director pointing out that the state's regulatory definition "qualified actuary" for health premium actuarial certifications was inappropriate and suggested corrective language. A second letter⁶ urging a clarification of the definition of "qualified actuary" was sent in February after the department responded to the Academy that no modifications would be made.

Essential Health Benefits

On Jan. 31, the Academy's Individual and Small Group Market Task Force submitted a letter⁷ to HHS on its December 2011 bulletin on essential health benefits under the ACA. The Academy's comments addressed issues related to benefit design flexibility, scope of benefits, mandated benefits, and actuarial equivalence.

NAIC Activities

On Dec. 9, the Academy's Pension Accounting Committee and Joint Committee on Retiree Health submitted a comment letter⁸ to the National Association of Insurance Commissioners (NAIC) on the exposure drafts of Statements of Statutory Accounting Principles (SSAP) No. 92 and No. 102. These exposure drafts are intended to replace existing standards governing accounting for pension benefits and postretirement benefits other than pensions (OPEBs).

On Nov. 2, the Academy's Cancer Claims Cost Tables Work Group submitted a letter⁹ to the NAIC's Health Actuarial Task Force (HATF) indicating progress it has made over the last year and informing HATF of what it intends to do in the coming year.

Also on Nov. 2, the Academy/SOA Long-Term Disability Work Group updated¹⁰ HATF on the work group's progress on the creation of a valuation table for group long-term disability. The joint work group has created three subgroups (margins, table development, and company experience) to assist in the development of the table and completion of the project. The work group expects the table to be completed by March 2012.

Ongoing Activities

The Academy's Health Practice Council has many ongoing activities. Below is a snapshot of some current projects.

Health Practice Financial Reporting Committee (Darrell Knapp, Chairperson) – The committee has reviewed the list of Academy health related practice notes that need updating. It is currently updating the Large Group Medical Business Practice Note and will be updating the 1995 Long-Term Care Insurance practice note in 2012.

Medicare Steering Committee (Ed Hustead, Chairperson) – The committee is developing a series of public statements related to specific Medicare-related provisions included in recent deficit reduction proposals.

Academy/SOA Cancer Claims Cost Tables Work Group (Brad Spenney, Chairperson) – The work group has been charged with evaluating and updating the 1985 cancer claims cost tables. In November 2010, the work group submitted a survey to companies that write cancer insurance to get their opinions about the table. Not enough companies submitted responses, so the group is working with the SOA to submit a smaller data call in early 2012.

Group Long-Term Disability Work Group (Darrell Knapp, Roger Martin, Co-chairpersons) – This work group has been charged with developing a valuation table for group long-term disability insurance. The work group expects to complete the table by the second quarter of 2012.

Health Practice International Task Force (April Choi, Chairperson) – The task force has created two subgroups, one focusing on long-term care systems in foreign countries and one on types of wellness initiatives in foreign countries. The long-term care subgroup is publishing an article on international long-term care challenges in the March/April 2012 issue of Contingencies.

Health Receivables Factors Work Group (Kevin Russell, Chairperson) – This work group is review-

ing current health care receivables factors for the NAIC's Health RBC Working Group and providing guidance.

Long-Term Care Principles-Based Work Group (Al Schmitz, Chairperson) – This work group has formed a joint Academy/SOA task force to develop and recommend valuation morbidity tables for long-term care insurance at the request of the NAIC's Accident and Health Working Group. The work group is summarizing results from various scenarios to determine the structure of the morbidity tables. The project is expected to be completed by final quarter 2012.

Long-Term Care Valuation Work Group (Bob Yee, Chair) – This group is developing valuation morbidity tables for LTCI. The work group is working with the Medical Information Bureau (MIB) to finalize the data and will construct the tables in March 2012 and compile a draft report by July 2012.

Long-Term Care LTCI Practice Note Update (Warren Jones, Chairperson) – This work group has been formed with updating the Academy's 2003 LTCI practice note. The work group expects to release an exposure draft of the practice note in early 2012.

Medicaid Work Group (Mike Nordstrom, Chairperson) – The ASB has approved the work group's request to have the 2005 Medicaid Managed Care practice note developed into an ASOP and has formed a task force to complete this task.

Medicare Part D RBC Subgroup (Brian Collender, Chairperson) – This subgroup is recommending changes to Medicare Part D RBC formula and has asked the NAIC's Health RBC Working Group to assist with administering a survey of companies that write Medicare Part D business. The subgroup is awaiting further guidance from the NAIC.

Medicare Supplement Work Group (Michael Carstens, Chairperson) – This work group has submitted recommended changes to the Medicare

CONTINUED ON PAGE 18

Supplement Refund Formula to the NAIC's Medicare Supplement Refund Formula Subgroup. The NAIC is compiling a database of selected states for this project and will update the work group when it is finished.

Health Solvency Work Group (Donna Novak, Chairperson) – The work group continues to evaluate the current health RBC covariance calculation for potential changes to the calculation or methodology and the impact of health reform on the health RBC formula. The work group will be predominantly focused this year on the NAIC's Solvency Modernization Initiative (SMI). The report was submitted on Jan. 31. The work group has been

asked by the NAIC's Health RBC Working Group to look at various missing health risks related to the RBC formula.

Stop-Loss Work Group (Eric Smithback, Chairperson) – This work group is continuing to update a 1994 report to the NAIC on stop-loss factors.

If you want to participate in any of these activities or you want more information about the work of the Academy's Health Practice Council, contact Heather Jerbi at Jerbi@actuary.org or Tim Mahony at mahony@actuary.org. ■

END NOTES

- ¹ http://www.actuary.org/pdf/Academy_amicus_%2811-393%29.pdf
- ² http://www.actuary.org/pdf/health/MLRRWG_cmts_MLRreportingForm_120214.pdf
- ³ http://www.actuary.org/pdf/health/ASPE_AV_ESI_comment_letter_120131.pdf
- ⁴ http://www.actuary.org/pdf/health/PRWG_letter_MArate_review_budget_amend_111101.pdf
- ⁵ http://www.actuary.org/pdf/prof/COQ_QualActLetter_AZInsur_111118.pdf
- ⁶ <http://www.actuary.org/pdf/health/Hard-Copy-Academy-comment-letter-to-AZ-Dept-Feb-10-2012.pdf>
- ⁷ http://www.actuary.org/pdf/health/ISGMTF_comments_EHB_bulletin120131.pdf
- ⁸ http://www.actuary.org/pdf/naic/AAA_to_NAIC_SSAP_92_102_120911.pdf
- ⁹ http://www.actuary.org/pdf/health/CCCTables_ProgressReport_to_NAIC_111031pdf.pdf
- ¹⁰ http://www.actuary.org/pdf/health/GLTDWG_Update_to_HATF_111102.pdf

Health Actuaries and the Short-term Prediction Problem

By Kurt Wrobel

The health actuarial profession has a very real structural problem that is not often discussed—the inherent challenges in making predictions where the results are known in a short period of time. As I will discuss, this short-term prediction problem creates challenges that can cause serious reputational damage to our profession and impact our career progression. In addressing this problem, I will first describe the features of developing predictions under different pricing systems and then discuss the inherent challenges with short-term predictions particularly under complex systems. This article will conclude with a discussion of strategies that we could use to improve our professional standing.

A Comparison of Pricing Systems

The short-term prediction problem can be best illustrated by comparing different pricing systems. The chief differentiating feature among these features is the timing of the prediction process and the degree of complexity of the underlying model.

- Static cost accounting process that involves no prediction.
- A short-term prediction process that involves either a simple or a complex system.
- A long-term prediction process that involves either a simple or a complex system.

The key differentiating feature between simple and complex systems is the degree of accuracy one could expect from using traditional statistical models and the potential impact of unforeseen randomness beyond the parameters of the model. In addition, complex systems are more likely to be profoundly impacted by the results of a prediction error. Although I won't discuss this system specifically, we also have predictions that can never be proven or disproven—for example, the effectiveness of a program that could have multiple factors that influence its ultimate outcome.

Cost accounting with no future predictions. In this system, the underlying cost structure is devel-

oped using detailed cost accounting that estimates the internal cost for producing a product. Following the development of this internal cost estimate, the final product price and ultimate margin is developed based on a budgetary process or a more sophisticated technique to maximize profit. In this case, the work product can be produced relatively easily with no obvious uncertainty beyond clearly articulated assumptions. Once the work is completed, the organization can move on to selling the product.

Short-term predictions with simple systems.

Whether it involves pricing systems or the expected behavior of consumers with credit cards, this system involves using meaningful statistical techniques to estimate the future with a very small chance that this system will be unexpectedly impacted by unforeseen random events. In one example, the credit card company Capital One used demographic and payment history to segment their customers and then used this information to develop programs to specifically target the most profitable customers. The chief feature was that consumer credit card payment behavior was relatively simple to estimate and then measure. Although this process involves some prediction, the estimation process is simple enough that standard statistical techniques can be used to reliably predict the future.

Short-term predictions with complex systems.

This system largely describes our work as health actuaries. Other professions that make predictions about complex systems and then receive feedback in a short period of time including portfolio fund managers, economists, and stock or bond traders. For health actuaries, we are charged with using historical data and estimates of future utilization and unit cost to project future claim costs. In addition, we must account for several other factors including a wide array of plan designs, the accuracy of complex underlying data, and a typically very complicated rating model. The inherent complexity of predicting future health care costs in a relatively short time frame—particularly when a system is undergoing significant dislocation (a recession or a significant change in regulation, for example) and



Kurt Wrobel, FSA, MAAA, is VP & chief underwriting officer at Humana, Inc in Louisville, KY. He can be reached at kwrobel@humana.com.

CONTINUED ON PAGE 20

with other potential for significant randomness—leads to our most salient challenges:

process has a very real impact on our profession’s reputation.

- Multi-year prediction accuracy. The inherent variability makes multiple year prediction accuracy nearly impossible—especially in a rapidly changing environment. (This same challenge is faced by other professions engaging in short-term predictions.) The irony, of course, is that our actuarial models could have vastly better prediction results over the long term relative to less sophisticated models. In addition, the outcome could have been part of an expected distribution of potential outcomes.
 - The Narrative Bias Problem. The real excitement occurs after an inaccurate prediction cycle. Depending on the environment, people not related to the process will jump in to create a simplifying narrative on why the prediction was inaccurate. Even if the result could have occurred given a potential distribution, the simplifying explanation (“narrative bias”) will often create a narrative that the actuarial team missed something. As I will discuss in the next section, the
- Long-term predictions with simple models.** This would include prediction models made far into the future (10 or 20 years), but also change slowly over time and are less likely to be dramatically impacted by exogenous factors. Mortality tables would be an example of this long-term simple model. Because of the relatively simple and slow moving nature of these predictions, incremental changes can be made over time and the actuary can make adjustments without having to be consistently accurate on a year to year basis.

Long-term predictions with complex models. This process is by far the most difficult and the most likely to be completely futile. These include grand predictions far into the future—estimates of health care spending in 20 years or the expected deficit in 20 years. In many cases, these long-term predictions are biased by a particular philosophy rather than the pursuit of a more absolute truth. The chief advantage, however, is that the individual predicting the far off result will likely be long gone before

Pricing Process	Prediction Technique	Management Challenge
Simple Cost accounting	Basic accounting; no specific prediction required	Clearly articulate the underlying assumptions
Short-term Simple	Standard statistical techniques	Develop accuracy predictions consistent with the statistical techniques
Short-term Complex	More sophisticated techniques could be used, but the accuracy of the modeling will be more limited.	Clearly articulate the limits of estimating complex systems; guard against the narrative bias problem; consider the impact of the outcomes as well as the prediction.
Long-term Simple	Standard statistical techniques that can be adjusted over time	Set appropriate expectations and allow for adjustments in the process.
Long-term Complex	Typically little more than a guess; often impacted by a particular philosophy	Usually the analyst is gone by the time the results are seen.

the actual result of the prediction is seen or could easily blame a missed estimate on a wide potential set of unexpected causes.

The Implications for Health Actuaries

We need to first clearly define our challenges—we work in a field where we make short-term prediction of highly complex systems and these predictions are not likely to be correct over multiple periods. Unfortunately, this process becomes most advantageous to people who sit on the sidelines and create simplifying narratives of why an event occurred usually with simple data analysis, short definitive statements prescribing a solution, and with a few memorized data points. This ultimately puts our profession on the defensive as we try to explain an ex-post result that could have occurred based on a wide range of potential outcomes of a complex system. As a profession, our career prospects are ultimately limited simply because the consistent success necessary to progress is extremely difficult in a multiple prediction cycle situation.

How to Respond to the Challenge

As a profession or on an individual basis, I truly hope that we don't respond in the most expedient way—stand on the sidelines and criticize those making predictions by developing simplifying narratives of why a prediction was incorrect. I think the long-term solution is to first understand our challenge and then respond accordingly, including:

- Discuss actuarial predictions in distributional terms rather than in point estimates. We need to resist the temptation to say an expected result will be a given number and, instead, develop a discussion that highlights a wide range of potential outcomes. Although somewhat more difficult to explain, this exercise highlights the potential for a single point estimate to be wrong and helps maintain our reputation if we do have an inaccurate prediction period.
- Consider the outcomes of particular events rather than just the prediction of the event. We need to consider the state of the business and the financial



outcome over a wide range of possible outcomes rather than focus on a single point estimate. This exercise is particularly important in a relatively low margin insurance business—any miss can have a profound impact on the aggregate margin for the organization.

- Openly discuss the narrative bias problem. We need to always be aware and call out this problem. By allowing other people and professions to call us to task for the result of a complex system, we damage our reputation as actuaries and limit our own career progression.
- Quickly identify and explain the inappropriate use of data. We need to be constantly vigilant of poor data analysis—particularly where an analyst uses random data to prove a point rather than honestly using data to discover a particular result.

In the parlance of Nassim Taleb, the author of “The Black Swan” and several other books on randomness, we are unfortunately in a very fragile business—our profession and careers are adversely impacted by unexpected results from complex systems. Ironically, individuals who can avoid the business of predicting complex systems and just

CONTINUED ON PAGE 22

provide comments on these results face a much better payoff—they can benefit if our predictions are wrong by suggesting that they knew our predictions were going to be wrong and face no loss if the predictions are correct.

As a profession, I think that we too often approach these situations with a degree of naïveté that ultimately hurts our profession. To the extent possible, we need to educate and be vigilant of a system where we have this potential for adverse events. We need to set appropriate expectations, consider

outcomes as well as make predictions, and guard against the narrative bias problem.

In the end, of course, if all else fails, we can follow Taleb's advice in how to respond to randomness:

“Wear your best for your execution and stand dignified. Your last recourse against randomness is how you act—if you can't control outcomes, you can control the elegance of your behavior. You will always have the last word.” ■

Have you used the Competency Framework Self-Assessment Tool?

We want to know what you think.

How has the tool and personal planning workbook helped you design your future?

Contact **Jacquenette Moody**, professional development manager, with feedback at jmoody@soa.org.



CompetencyFRAMEWORK
DESIGN
your future.



Recently Adopted Strategy Charts a New Course for SOA Research

By Steven Siegel

Exciting things are happening with Society of Actuaries research! This article provides an overview of the new strategy that the SOA has adopted for future research. I have included excerpts from the official Board of Directors report and other documents. As a health actuary, you are an important part of this strategy. We would like to hear from you with ideas and suggestions for taking advantage of newly available resources and funding.

Strategic Approaches to Research

During 2011, the Board of Directors reviewed the research strategy for the SOA. This was part of a multi-year strategic effort to review the role of the SOA in the creation of intellectual capital on behalf of the profession.

The research strategy embodies three primary approaches to research: advancing knowledge, expanding boundaries, and intellectual capital research.

Advancing knowledge research ensures that the SOA continues to broaden and deepen actuarial science and its applications. Examples include research done by academics and others working in the pure science and its application.

Expanding boundaries research renews, strengthens, refocuses and rethinks the roles that actuarial science and actuaries play. It can include research that supports or expands the boundaries of existing practice, research that promotes the interest of society and research that has a strong public policy aspect. Examples include work related to health care reform legislation.

Intellectual capital research is best defined as common tools used by actuaries. The best example and one that members consistently cite as high value is experience studies. Other examples include software for calculating incurred but not reported reserves through innovative techniques and advanced methodologies for health risk assessment.

These approaches are not mutually exclusive and may have been used in combination to help optimize

the impact and value of any particular research effort.

At its October 2011 meeting, the Board authorized a revised research strategy that focused on increasing the amount of expanding boundaries research produced by the SOA (defined as research that expands actuarial practice, supports public policy and/or serves societal interest).

As part of this strategy, additional funding was approved to support expanding boundaries research in 2012 and 2013. Another of the goals was to encourage the development of more multi-year, multi-stage projects with a broader, deeper focus.

Research Executive Committee Mission

To move this work forward, the Board authorized the establishment of a research oversight committee (dubbed the Research Executive Committee) to support the sections, research committees, and other groups actively involved in research, set agendas and budgets, and provide a review of the research function on behalf of the Board.

Based on the October 2011 Board report, the duties of the Research Executive Committee are expected to include the following items:

- Set a research agenda and recommend research budgets based on input from the research committees, sections and other groups working on research
- Recommend project funding and formulate strategies for timely project completion
- Set and monitor acceptance criteria for research project funding and quality standards for published research. Establish and implement evaluation standards and process for research grants made by the SOA
- Assist with the topic-specific research committees, sections, and other groups as needed to



Steven C Siegel, ASA, is research actuary at the Society of Actuaries in Schaumburg, Ill. He can be reached at ssiegel@soa.org.

CONTINUED ON PAGE 24

- identify and develop new projects to address unmet needs
- Set overall strategy for distribution and communication of research results
- Monitor the success of research projects, in terms of the awareness and use by members and other stakeholders and other impacts of results
- Make recommendations to the Board as necessary for any significant changes in research strategy or research budgets
- Evaluate whether practice boundaries have been successfully expanded through the operation of the SOA's research function and provide periodic reports to the Board on the same

Next Steps

As of this writing, the committee is currently in formation. Among its first actions will be laying the foundation for how newly available funding will be accessed. In this regard, your thoughts for broader, deeper projects for health related research for the coming years will be invaluable. We look forward to hearing from you. ■

Health Care (Pricing) Reform

By Syed Muzayan Mehmud



Introduction

Health care reform poses an assortment of pricing challenges for the health care actuary. Some of these we have dealt with before, and some are new. This article focuses on those challenges that necessitate a re-think of the tools and methods that health actuaries typically use in pricing.

In terms of methodology and technique, many reform-related changes do not require abandoning established pricing practices. The adjustments needed to current models may be complex, but do not require building a radically new toolset.

Then there are other changes which may require innovations in pricing methods and techniques in order to address them satisfactorily. This article presents four such changes. The discussion below does not focus on policy or on quantifying the answers. The goal is to introduce new ways of thinking about old problems that would make the job of pricing health care costs more sound, efficient, and reflective of underlying uncertainties in actuarial estimates.

Beyond Counting

At the core of a pricing exercise is an appropriate valuation of health care cost—historical and

projected health care. An example is developing utilization and unit cost of preventive services. The typical approach towards this type of pricing is summarizing historical data from a certain source in a deterministic model that produces point estimates for analysis. This process is resource intensive, is replete with issues around inadequate or insufficient data, and produces results that can be inconsistent across data sources.

The empirical technique of summarizing, or if I may, *counting* utilization/cost has served pricing exercises well. It is a simple method that is easy to implement. There is however a better way, one that especially under the myriad of benefit options to be modeled under changes posed by reform offers a more robust, consistent, efficient, and credible way to model health care resource use. We could also do well with moving away from point-estimates and developing scenarios of varying likelihood (i.e., confidence intervals) around our priced estimates.

The ‘innovation’ I would like to describe is actually not a new idea at all. All of us have learned it during our training and exams. I am talking about parametric distributions that model health care cost. These distributions can be fitted for overall cost and just as well for subcategories such as preventive care or ER, etc. Adjustments for copay,



Syed Muzayan Mehmud, ASA, FCA, MAAA, is a consulting actuary with Wakely Consulting Group in Englewood, Colo. He can be reached at syedm@wakely.com.

CONTINUED ON PAGE 26

cost sharing and other popular benefit design variations fall elegantly out of the modeled distributions without additional modeling overhead. And finally, confidence intervals can also be constructed as a natural extension of this modeling framework.

Imagine a reference manual that has fitted parametric distributions as well as a menu of parameters to tailor them to specific situations. Multiple data sources (public and private) can be utilized in a Bayesian modeling approach in order to develop a robust family of probability density functions for various health care service categories. As research turns up more evidence, or if an organization's own data are available, the modeled distributions can be adjusted to the extent the new information is credible in relation to that which is already incorporated. We are using a patchwork of models sliced and diced from disparate sources yielding a distribution of answers to the same question. If we can have a repository of modeled distributions that can easily be credibility-adjusted to specific client data, we can rest assured in the quality of these estimates and focus attention and time away from data and towards higher-level pricing functions.

Use of Non-Traditional Variables

Risk adjustment is an important piece of reform. Variables traditionally used in pricing morbidity risk include demographic information, diagnosis codes, and national drug codes (NDCs) from pharmacy data. However there exist other variables with the potential to supplement claim data vis-à-vis risk assessment; these include information such as income, education, and information on lifestyle.

Economists have long studied the positive correlation of health care with almost every positive indicator of socio-economic status. The impact of non-traditional variables in assessing risk has not yet crossed over into mainstream risk adjustment methodologies, but it may be of great interest to actuarial pricing in a risk adjusted environment that only utilizes traditional variables. The math is simple and compelling. Say we have two diabetics of the same age and gender, one in an urban low income setting and one in a suburban high income area. If these two have markedly different costs on

average (and econometric literature suggests that they do) then this difference in cost is up for grabs. A plan attracting high income folks with a certain condition will receive the same credit from a traditional risk scoring model as another that attracts low income individuals with the same condition—but the high income folks will likely have much more favorable experience. Traditional variables mitigate the potential for selection; however, they do not eliminate it.

The entities implementing a risk assessment methodology will need to think carefully through what non-traditional variables can be incorporated into the risk pricing model such that the goal of mitigating selection is advanced, while plans in a competitive environment will be highly incented to look for other variables not yet incorporated into the pricing methodology but that explain variation *beyond* which is already captured.

Uncertainty in Risk Adjustment

An important area where uncertainty in actuarial calculations is not currently recognized is risk adjustment. Risk adjustment is a critical concern for health care organizations as the amount that gets adjusted can exceed profit margins. It is also of vital importance to governmental entities to ensure that the policy goals of risk adjustment are met. Currently we have the tools to estimate whether an individual, group, or plan has an $x\%$ risk relative to the average—but we do not have tools that tell us what the confidence interval is around that point estimate of future risk. Risk score predictions are far from perfect, and recognition of probable ranges where the right answer will fall can offer significant help in anticipation of and preparation for a set of outcomes.

To develop this concept further, there are two key questions for a risk adjustment application. One question is whether any risk adjustment is justified at all given an observed difference in risk scores and the underlying variance in predictions. This is a question that requires computing the statistical significance of an observed difference in (typically group level) risk scores. The second question is that given the observed difference is significant, how confident can we be that the predicted risk score

will be equal to or close to actual risk? This requires innovations in terms of development of a bootstrap methodology that allows calculation of confidence intervals around risk score point estimates.

The Affordable Care Act (ACA) establishes a risk adjustment program for all non-grandfathered individual and small group plans inside and outside of an exchange. The pricing challenge for plans is that the risk score for covered members for 2014 is somewhat an unknown quantity. This is a combination of not knowing the members that will enroll, lack of data on the previously uninsured, and also not knowing the risk score of members enrolled in other participating plans as that will affect the risk-related payment transfers. This calls for not only recognizing uncertainty in risk scores for existing enrollees, but performing a simulation that provides ranges of outcomes and associated probability based on scenarios of member movements.

Related to member movement, there is an important characteristic of risk assessment that has historically not been discussed much, but it may need to be addressed in an exchange environment. This is the question of bias in risk scores, which is a component concept of overall uncertainty in risk score estimates. There are various types of bias that need to be addressed but are outside the scope of this article, however one in particular is important to consider here. It is well-known that risk assessment modeling results in over-predicting costs for low cost individuals and under-predicting for higher cost individuals. This means for example that if only higher-cost individuals shift from one plan to another, the risk score that follows them is *biased* downwards, resulting in a lower payment to the plan relative to the transferred risk.

One way to address this potential imbalance is to develop *correction factors* by predicted risk score bands that normalize for this bias. For example, we can empirically calculate the bias by looking at the relativity in actual PMPM by predicted risk score band and compare it to the average risk score within the band. The ratio of these is how much the risk score needs to be increased (or decreased) in order to correct for systematic over/under prediction of low and higher cost individuals. There are subtle

consequences of making an ad-hoc adjustment of this nature, and as such this is a good topic for further research and study.

Complexity Science Models of Population Transfers

The pricing challenge for health care actuaries is to determine who will enroll into the plan, their morbidity risk, their associated utilization and costs, how will competitors behave, what payment transfers will be produced by the risk adjustment exchange mechanism, and finally—what is the expected loss ratio. In a certain sense—this section encapsulates the earlier discussion and brings it all together in order to compute the bottom line impact. Developing a pricing methodology for one of these issues is hard enough, how do we put the whole jig-saw together? Oh and by the way, every piece interacts dynamically with every other piece—like completing an evolving puzzle where every piece added changes how other pieces go together.

Traditional actuarial models can be thought of as a “top-down” perspective. Where we take large amounts of health care data, boil it down to a few cells in excel and develop assumptions, estimates, and methods that operate on a highly abstracted level of detail. We are typically applying our trend or other assumptions to cell-based estimates representing thousands of individuals. But those individuals are not the same, do not behave the same, and do not cost the same—do they?

Health care reform presents us with changes that do not have a lot of historical precedent and historical data is not really an option to model out some of the changes. We need an exploratory tool to analyze impact of policy changes. We know a great deal about agents within the system and how they behave, for example how individual policy holders may react to premium changes or to plan offerings, how employers may offer coverage or not depending on tax subsidies, how plans may offer certain benefits or coverage depending on anticipated or experienced loss ratios. However we

CONTINUED ON PAGE 28

do not have a good sense of how these behaviors and interaction of agents will translate into large-scale changes in access, delivery, quality, and cost of care.

Complexity models include micro-simulation approaches which, in contrast with traditional pricing methods, offer a “bottom-up” perspective. Individuals are synthesized and their behavior and interaction with other entities in a system is coded into simple equations or algorithms. The system is then *run* and the impact of various changes in the system can be studied. For example, one can study how the uninsured population will participate in an exchange, what Medicaid expansion will do to the risk profile of the program and associated costs, how competition will play out in an exchange, how a particular risk adjustment mechanism will perform, and estimate loss ratio experience for participants in an exchange.

All of this sounds a little bit like science-fiction and lot like “The Matrix,” however it is very real and relevant. Micro-simulation models like the one discussed above have been developed by the Congressional Budget Office and other organizations. Going forward, these models will find increasingly more uses (in particular in pricing) and it is extremely important that this modeling tool is better understood by practicing actuaries. Complexity science has been around for a while, however for the first time it is being used to shape health care policy. Currently it is the domain of econometricians who understand and model the behaviors of individuals and organizations in response to changes in tax policy or the migration patterns and aging of the population. Today presents a great opportunity for actuaries to get involved and further develop the pricing dimension of micro-simulation models to make them even more powerful tools to address challenges posed by reform.

Conclusion

There are four important areas where traditional approaches to actuarial pricing need to be reimagined. The first one is a need for consistent, efficient, and accurate modeling of utilization and costs that also recognizes the uncertainty in such estimates.

We need to move toward parametric distribution-based health care estimates rather than point-estimates derived through summarizing data.

The second challenge is appropriate pricing of health care risks in a risk adjusted environment. Traditional variables do not capture the full variation of health care cost, and this article suggests including non-traditional variables in the risk adjustment methodology in order to advance and to preserve the policy goals of a risk adjustment mechanism.

Third, an opportunity to advance pricing of morbidity risk lies in recognizing the uncertainty in health care claim-based risk scores. The article discusses how this uncertainty may be quantified through development of confidence intervals around average point-estimates of risk.

And finally, the fourth challenge is how to aggregate the various pricing models and innovations and tell the big picture story. The article describes modeling complex population movements and market interactions in order to yield ultimately important estimates such as loss ratios and risk adjusted payment transfers. This modeling is accomplished through an agent-based complexity approach.

Change is challenging, but it also represents a great opportunity for us to add even more value than before in important areas such as pricing. The way I see it, we are fortunate to practice in an exciting time that challenges us to develop existing skills and learn new ones. A sense of purpose and meaning in work is a universal yearning—*id temporis carpe diem!* ■

The opinions expressed in this article are solely those of the author. Syed can be reached at Syed@PredictiveModeler.com

Pricing Issues Resulting from Budget Setting and Stoploss in ACO Arrangements

By Anthony Rubiano

More emphasis has been placed on Accountable Care Organizations (ACOs) and similar provider risk-sharing arrangements due to health care reform. These new contractual arrangements pose challenges for actuaries involved in budget setting and stoploss pricing.

For purposes of this article, an ACO is an arrangement between one or more providers and an insurer (or governmental payer such as Medicare) to manage the financial and clinical aspects of covered members' health care. In many respects ACOs are like HMOs—in that the provider is accountable for population health of their member panel. However, in an ACO a patient doesn't necessarily choose a primary care physician. They often can go to their provider of choice, subject to the terms of their coverage contract with the insurer—as in a PPO. The insurer determines which provider is attributed the responsibility for each member's care, based on individual claims patterns.

As providers take on risk, they will be interested in stoploss insurance (sometimes called provider excess insurance). This protection could be separately purchased from a third party stoploss insurer, but in this article I assume it is included in the terms of the ACO arrangement. At the beginning of the year, a budget for total claims costs may be agreed upon by the insurer and the provider. If the provider can control the costs to an amount below the agreed-upon budget, the insurer and the provider would share in the savings. Since providers may not be able to manage the costs of high claimants, or be financially responsible for these costs, they may include stoploss in their contracts with insurers. The ACO will be held accountable for reducing the costs of the patient while still maintaining a high standard of quality. However, there will be low frequency/high severity claims that will skew results and “muddy the waters” as to whether the ACO is having a positive effect on the patients' claim costs. So, the ACO will pay a premium (which lowers their budgeted amount). In return, the amounts above the stoploss threshold for high claimants are taken out of the experience data when comparing budget to actual results.

This article will consider several issues arising from ACO budgeting and pricing of stoploss coverage, including:

1. attribution of members;
2. claim carve outs;

3. ambiguous stoploss terms;
4. providers gaming the system and
5. credibility of data.

Attribution of Members

When underwriting a group, it is often important to understand the experience of the members in the group compared to the experience in the overall population. When setting budgets for providers who will be accepting member risk and pricing the associated stoploss insurance, it is important to be able to determine the experience of the members attributable to that provider compared to the rest of the population. Attribution is also extremely important in monitoring the provider's experience compared to its budget.

In an HMO arrangement, it is easy to determine which members are attributable to each provider since the member actually has to choose a primary care physician. However, in ACO arrangements, the member does not formally select a primary care physician. A decision needs to be made regarding to which provider a member is attributable. A physician's office may have a list of members who have visited it throughout the year. From that provider's perspective, those members should be on its attribution list. However, those members may also have seen other doctors, and/or may not want to continue to go to that provider. From the member's standpoint, that provider may no longer be the provider of choice. And from the insurer's perspective, there may be many physicians that the member visited, all of whom have had an impact on the member's health and claims costs.

The insurer needs to consider several things when developing attribution lists:

1. Partial vs. Full Attribution: Will a member's experience be fully attributable to a provider or only part of the experience? If members are considered to be fully attributable to a particular provider then attribution lists should be mutually exclusive (i.e., there should be no overlap in the lists). In any case, the total member months (and claims) should be equal to the sum of member months (and claims) that are attributable to each provider plus those that are unattributed.



Anthony J. Rubiano, ASA, MAAA is associate actuary at Excellus BlueCross BlueShield in Rochester, N.Y. He can be reached at anthony.rubiano@excellus.com.

CONTINUED ON PAGE 30

2. **Quantity of visits:** It may be true that the physician who was visited the most may have the biggest impact on the member's health. If the physician is not doing much good for the patient—hopefully the patient would change physicians. However, if a physician were to drive the utilization, the member could potentially have a large number of visits with little effect to his health.
3. **Recency of visits:** In some cases, a member might be assigned to a physician based on the most recent visit.
4. **Members with no claims:** These members could be unassigned. However, the unattributed experience will include members with no claims. If providers are only attributed members with claims, their population could look sicker than the general population. The attribution of members with no claims might be determined based on historical data, geographical, or volume of claims.

The analyst might consider applying the claims-based attribution logic to the HMO population. Since HMO attribution is otherwise positively and clearly defined (the member selects his provider), this can provide insight into how the attribution logic works—and identify false positives and false negatives.

Claim Carve Outs

Another important issue that actuaries need to consider are claim carve outs. When measuring the effect that an ACO is having on claims, the provider may wish to exclude certain claims such as:

- claims that they have little control over;
- claims excluded for religious reasons (e.g., abortion services);
- conditions which are not normally treated within the provider's hospital system (such as burns and trauma).

Actuaries can help specify the definition of excluded claims, with some knowledge of claim coding. For example the provider may want to exclude claims related to "trauma." First of all, how is "trauma" coded in the claims? Will it be determined by a set of DRG's, ICD9 (ICD10) codes, or CPT codes (or some combination of these)? Will only the claim on that date be considered, or will follow up claims associated with that claim be excluded also?

How will these associated claims be identified? This may require collaboration between the actuary, coders and clinicians.

An insurer may decide to exclude the claim and all claims within a set time period of the claim. A drawback from this method is that other claims that should be included may overlap with this time period.

Another method that can be used is to exclude the entire member from the study for the year that an excluded claim occurs. But suppose a member has a claim that is incurred toward the end of the year. Since claims associated with the original claim may span across the two years, should this member also be excluded from the following year? Complications could arise from the decision that is made.

Alternatively, claims to be excluded could be defined according to episode grouper software. However, there could be a lag in identification of claims related to specific episodes, potentially delaying settlement of the ACO risk-sharing arrangement.

Ambiguous Stoploss Terms

A lack in clarity in allocating the amounts above the threshold can result in confusion. The provider may want the stoploss amount allocated across different service categories, depending on which types of providers are included in the ACO arrangement.

For example, suppose the desired annual stoploss thresholds were:

- hospital inpatient claims greater than \$75,000
- hospital outpatient claims greater than \$75,000
- comprehensive claims over \$75,000

Suppose a member had hospital inpatient claims = \$85,000 and hospital outpatient claims = \$85,000, and other claims of \$10,000.

How might this be interpreted?

One analyst may view the stoploss for hospital inpatient would be $\$85,000 - \$75,000 = \$10,000$, the stoploss for hospital outpatient = $\$85,000 - \$75,000 = \$10,000$, and the comprehensive claims stoploss would be equal to \$10,000 (since total claims are greater than \$75,000, all of the "other" claims would be covered.) So the total reimbursement would be \$30,000.



Another analyst might view the total claims equal to $\$85,000 + \$85,000 + \$10,000 = \$180,000$. The stoploss above the comprehensive threshold would be $\$180,000 - \$75,000 = \$105,000$. He might then allocate the stoploss as 41.67 percent inpatient (\$49,583.33), 41.67 percent outpatient (\$49,583.33) and 5.56 percent other (\$5,833.33)—the percentages equal to the magnitude of each category divided by the total amount of claims.

Often contracts are made by individuals who aren't actuaries. Sometimes details in the contract are left out. So when it comes time for the actuary to make a decision, different interpretations of the author's wording may be possible. It's important for actuaries to be involved when the ACO contract is written, to consider details that could avoid ambiguity.

Another thing to consider is that providers may try to experiment with different stoploss thresholds for different service categories in order to maximize the value that they get. This may be good for the provider (and perhaps even theoretically correct) but the cost of this to an insurer can include:

- complex contracts (with ambiguity of calculation)
- extra work to administer the contract
- opportunities for errors

So the actuary should consider these costs before agreeing to such an arrangement.

Providers Gaming the System

Providers have better knowledge of their patients than actuaries. While providers may not always be able to control the members who are on their attribution list, they may be able to control the utilization and the costs of those members. They may also be

able to alter utilization and cost to meet their budget at the expense of the members.

So, the arrangement should include quality measures to ensure that the provider doesn't sacrifice quality to receive any shared savings. Quality is hard to define and measure; it isn't necessarily linked to increased utilization any more than the bonuses are linked to decreased utilization. Therefore it's important for the actuary to make sure that the base data used to produce the budget is carefully analyzed. For example, if an actuary risk-adjusts the data, he should have a good understanding of how the risk scores are produced. In addition, it is important to pay particular attention that the data used to produce the budget parallels the experience used to measure the bonus. Also, the bonus that is paid out should in some way be tied to quality. Perhaps a simple system would be to apply a quality factor between 0 to 100 percent to the potential payout, where 100 percent represents ideal improvement in quality and 0 percent represents a decrease in quality. The insurer and ACO provider(s) should develop clear definitions of quality and quality measurements. Something else to consider regarding quality is whether an improvement (or worsening) of experience for a provider is actually due to the provider's influence or some other external factor(s).

Credibility of Data

Credibility affects all pricing, so I only mention this briefly. Stoploss insurance typically uses high thresholds. The supporting data is often scarce (low frequency/high severity claims). This is an opportunity for actuaries to apply knowledge from core actuarial exams to determine if the data they have is credible enough to use. This is also a consideration for the ACO claims experience data as well as the quality data.

Conclusion

ACO arrangements provide another way of contracting with providers. However, because additional money can be paid out when the provider meets the quality and/or financial goals of the contract, the actuary must be careful in setting the budget and determining the stoploss rates. An undervalued stoploss rate may leave the insurer with inadequate funds to cover large claims. Inflated budgets will overstate the shared savings. Therefore, these issues should be carefully analyzed, and risks to all parties understood. ■

SOCIETY OF ACTUARIES

Health
Section

Health Watch

475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
p: 847.706.3500 f: 847.706.3599
w: www.soa.org

Non Profit Org
U.S. Postage
PAID
Carol Stream, IL
Permit No 475