

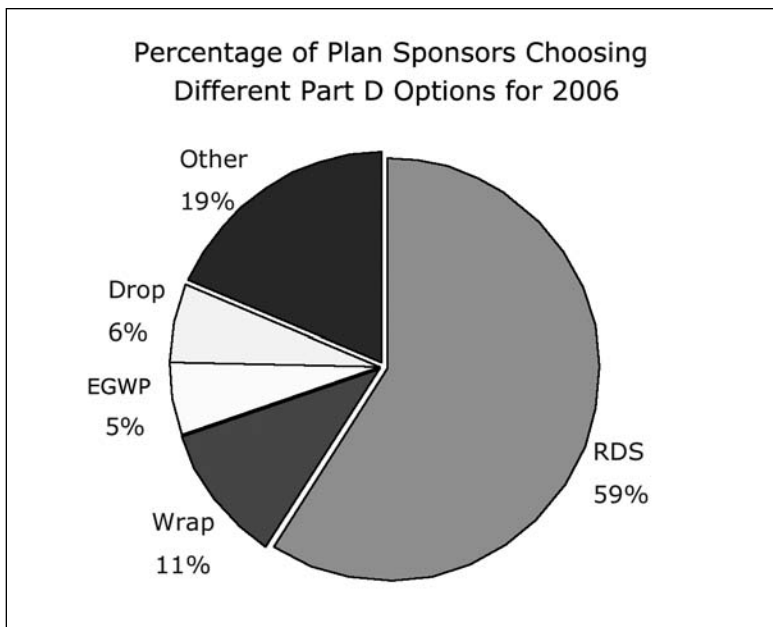
# Health Watch

“For Professional Recognition of the Health Actuary”

## **Medicare Part D for Plan Sponsors: Where Have We Been, What Have We Learned and Where Do We Go from Here?**

by Troy M. Filipek

Many plan sponsors of retiree prescription drug coverage are reevaluating their cost reduction options resulting from the Medicare Modernization Act for 2007 and 2008. Early indications from national surveys (citation) are that the “path of least resistance” under Medicare Part D—applying for the retiree drug subsidy (RDS)—is losing traction as plan sponsors learn more about other Part D options. This article explores what we’ve learned over the course of the first year of the program, factors that impact the decisions being made by plan sponsors and issues to consider when comparing the options available.



### **Where Have We Been?**

For 2006, plan sponsors had four main options under Medicare Part D (see adjacent table):

- Keep existing prescription drug coverage and apply for the RDS;
- Wrap coverage around an individual Part D plan;
- Purchase group coverage directly through a Medicare Advantage (MA-PD) or prescription drug plan (PDP) under an employer group waiver plan (EGWP); or
- Drop prescription drug coverage.

Some plan sponsors maintained coverage without applying for the RDS or adopting any of the other options listed above. Many of these plan sponsors likely had a small covered population (fewer than 50 lives) or had benefit levels below those required for the RDS. (Refer to the sidebar on p. 33 for a further description of these options.) However, most large plan sponsors welcomed the additional revenue from RDS



This article was written by Troy Filipek, a consulting actuary in Milliman's Milwaukee Office. He can be reached at [troy.filipek@milliman.com](mailto:troy.filipek@milliman.com).

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ph: 515.224.4380  
[LawrenceConsulting@mchsi.com](mailto:LawrenceConsulting@mchsi.com)

Ross Winkelman, Associate Editor  
ph: 303.672.9059  
[ross.winkelman@milliman.com](mailto:ross.winkelman@milliman.com)

Susan Martz, Project Support Specialist  
ph: 847.706.3597  
f: 847.706.3599  
[smartz@soa.org](mailto:smartz@soa.org)

Meg Weber, Director, Section Services  
ph: 847.706.3585  
f: 847.273.8585  
[mweber@soa.org](mailto:mweber@soa.org)

Joseph Adduci, DTP Coordinator  
ph: 847.706.3548  
f: 847.273.8548  
[jadduci@soa.org](mailto:jadduci@soa.org)

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## Chairperson's Column

by Lori Weyuker

**H**ow to contain the cost of health-care remains the \$64,000 question facing us today. As health-care and benefit actuaries, we are in the unique position of having much of the knowledge to help solve this puzzle. After all, isn't solving puzzles what we do for a living?

Looking at just the headlines in periodicals in the last few days, we saw some of the following:

- Consumer-driven health not drawing many users
- A New Year's recipe for resuscitating universal health-care
- Fix Medicare, not its prices

What is behind the scenes in these articles? Consumer-driven health is an attempt to contain health-care costs by making consumers more aware of their consumption of health-care, in the hopes that they will think before they spend. Increasing interest in universal health-care in the United States is at least partially flamed by a health-care system whose exponentially increasing costs seem to have no end in sight. And the government's past attempts at solving our puzzle have fallen short with the result of cost shifting.

These same issues (with different suggested possible solutions given at various points in time in the past) have been at the forefront for at least the past 10-15 years. While this is most broadly a health-care policy issue, actuaries are uniquely qualified to assist the policy makers in, at the very least, figuring out how to optimally assemble the technical aspects of health-care cost containment. If we assertively do this, it will be a great "commercial" for the actuarial profession!

In this, my final "chairperson's corner," I urge you to assertively help solve this most important issue for our times. As baby boomers continue to age and soon REALLY begin to consume even more health-care, this problem is likely to become even more severe. Our quality of life will be hugely impacted by how health-care will be meted out in future. Other countries are looking at us (the United States) as to if and how we solve this puzzle. Many countries around the globe have these same problems looming large. Thus, if we (actuaries) assist in solving this problem, our "commercial" would be an international one!

In closing, I also encourage you to get involved in SOA volunteer activities. We need you, your talents, your creativity and your energy. You are

### Letter to the Editor

Dear Editor:

I was disappointed with Howard Bolnick's article on comparative health policy. He puts a lot of credence in HALE scores and the fact that the United States compares very poorly with the rest of the world when HALE is plotted against expenditures. However, there are many reasons why HALE is a poor statistic to use for judging the quality of a health-care system.

HALE is a measure of life expectancy, but much of what goes into the calculation of life expectancy is unrelated to the quality of your health-care system. Murder, suicide, accidental death, and the way in which infant mortality is tracked all influence life expectancy but have nothing to do with the health-care system.

I believe we have a real problem with out of control spending in our health-care system, but to combat this we need to objectively analyze the problem. Until we do, we cannot hope to reign in costs. The first rule in comparative analysis is to ensure that the statistic that you are using as the basis of your comparison captures the essence of what you are trying to compare. Otherwise the fruits of your analysis are bound to be poisoned.

*Mike Crooks, ASA, MAAA*

the lifeblood of this organization. With the new structure of the SOA Health Section Council, we have many spots for volunteers in some of the following kinds of activities:

- Communications and Publications: Write an article! Be a speaker! Help with editing.
- Professional Community: Meet with policy-makers and be a real part of the big picture.
- Meeting Planning: The various conferences and seminars we put on throughout the year involve the efforts of many; we need the involvement of actuaries like you to keep these meetings stimulating and fresh. 🍷

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Lori Weyuker, ASA, is president of LW Consulting in Mill Valley, Calif. She can be reached at [Lweyuk@aol.com](mailto:Lweyuk@aol.com).

# The CMS-HCC Risk-Adjusted Medicare Advantage Program

## State of the Market

by John Haughton, Sheryl Coughlin and Karen Fitzner



John Haughton, MD, M.S., is a medical officer and CEO at DocSite, LLC in Raleigh, NC. He can be reached at [jhmd@docsite.com](mailto:jhmd@docsite.com).



Sheryl Coughlin, Ph.D., is a management consultant in Greenwich, Conn. She can be reached at [coughlin\\_sheryl@yahoo.com](mailto:coughlin_sheryl@yahoo.com).

### Introduction

Actuaries, by definition, predict future health-care cost. The better the prediction, the more accurate the pricing. The more accurate the pricing, the healthier the business. Many health-care payers apply risk adjustment and predictive modeling concepts and tools in an effort to most effectively understand likely future health-care costs. The Medicare Advantage payment system, in moving from a demographic to a health-care risk-adjusted payment method, ensures that the topics of risk adjustment, underwriting and predictive modeling are critical for today's business success and survival. They also demand the attention of health actuaries.

In 2007, 100 percent of the Medicare Advantage premium will be risk-adjusted using the CMS-HCC system. This is where Medicare uses "beneficiaries characteristics, such as age and prior health conditions, and a risk-adjustment model—the CMS-hierarchical condition category (CMS-HCC)—to develop a measure of their expected relative risk for covered Medicare spending. The payment rate for an enrollee is the base rate for the enrollee's county of residence, multiplied by the enrollee's risk measure, also referred to as the CMS-HCC weight."<sup>1</sup> Another

element of the CMS-HCC System is the expectation that health plans may clarify relevant diagnoses; Another element of the CMS-HCC System is the expectation that health plans may clarify relevant diagnoses; January 2007 is the last chance to modify diagnoses related to dates of service in 2005 for risk adjustment calculations. Managed care plans need to be adept at handling the ICD9 codes and work with ambulatory providers to be compliant with the new CMS-HCC rules that require effectiveness in handling and submitting *diagnoses* from visits for getting paid accurately, in comparison to the historical emphasis on *procedures* as the focus of payments. The need is even more complex, as most plans are paying providers based on procedures, without specific regard to diagnoses, while Medicare is paying the plans based on diagnoses that patients carry. In short, it is critical to understand the implications of the Medicare Advantage CMS-HCC risk adjustment system to succeed in the Medicare market. Furthermore, because the federal government often leads the way in payment changes—remember DRGs?—the risk adjustment lessons from Medicare Advantage may very well hold critical wisdom for the commercial sector as well.

This article draws upon background research, analysis and information from discussions with more than 20 experts in the field conducted during September and October 2006. Our objective was to clarify and lay the groundwork for better understanding of the market implications and reaction to Medicare risk-adjusted premiums.

### Background

Health-care expenditure is big business in the United States. Just the anticipated growth in the next 10 years of the over-65 age group to about 16 percent of the population could be a major factor in doubling U.S. health-care expenditures to \$4 trillion.<sup>2</sup> At present, 2006 physician and clinical services accounted for more than one-fifth (22 percent) of the health expenditure in the United

**If actuaries can keep abreast of the changes to the HCC program, it will make it easier to advise the health plans they work for (or consult to) on development of annual bids for the Medicare Advantage program. CMS certainly does its best to keep the health-care industry informed about any such changes.**

Sol Mussey  
Director, Medicare and Medicaid Cost  
Estimates Group  
Office of the Actuary, CMS

States. Government spending is 45 percent of the current total; the combined private sector spending is 55 percent of the total. Moreover, Medicare accounts for 19.4 percent of every health-care dollar spent in the United States, and it is predicted to be the fastest growing payer between 2005 and 2015.<sup>3</sup> Efficient and effective cost-saving and care delivery mechanisms are needed to keep the public system viable in the longer term.

Until recently, diagnostic data from physicians' offices was not incorporated into payment methodologies, which relied on risk adjustment in Medicare, and there is concern about the ability of providers in ambulatory settings and managed care plans to meet the CMS-HCC requirements. Concern is also expressed about the provider incentive to change behavior (they still typically get paid for procedures) and therefore, the quality and completeness of diagnostic reporting on claims, particularly in physician offices.

As experts at data analysis, risk adjustment and applying predictive models for pricing products and underwriting for large populations, actuaries are well placed to assist organizations to adapt their procedures to meet the CMS-HCC requirements.

## Medicare Payment Models

### Initial Medicare Managed Care – Demographic Payment for Patient Factors

Capitation has applied since 1985 for beneficiaries enrolled in Medicare managed care. Originally the Health Care Financing Administration (HCFA), now known as the Centers for Medicare and Medicaid Services (CMS) used a demographic-based risk adjustment for payment calculations. This was designed to save funds by paying 95 percent of the expected premium. Unfortunately for the federal government, the expected premium came from across *all* Medicare patients. Medicare managed care tended to attract a healthier cohort, one whose costs were likely to be less than the expected premium in the first place. This meant that the Government was *paying more* for the managed care group. Clearly the incentives in this demographic payment model rewarded finding “healthy-for-their-age” patients to enroll in the managed care offerings.

**Actuaries have to be part of the process as it goes forward; they can help mine data from physicians services and identify “suspects” (those patients who are likely to have risk adjustable diagnoses not already reported/or risk adjustable diagnoses not reported to the highest level of specificity). Actuaries can also help develop business intelligence tools to assist Medicare Managed Care clients determine probability rankings of suspects (i.e., stratify suspects related to highest probability of having an MRA diagnosis).**

Judy Coy

Advocate Health Centers

Director of Physician Coding and Compliance

Chicago, Ill.

### First Steps Towards Medicare Risk-Adjusted Premiums (PIP-DCGs)

CMS responded to the demographic-based approach by introducing the first Medicare risk-adjustment program using Principal Inpatient Diagnostic Cost Groups (PIP-DCGs) mandated in the Balanced Budget Act of the late 1990s. However, as the PIP-DCGs used *inpatient* data to risk-adjust, the only enrollees contributing to the clinical risk adjustment were those who were hospitalized. Once again the incentives were wrong, as one clear way to control costs is to prevent complications and keep patients *out* the of hospital. Recently, CMS introduced the CMS-HCC model to better align incentives and more accurately price health-care by including both inpatient and outpatient diagnoses for risk-adjusted payments.

### CMS-HCC, Here and Now, the Better Solution?

The CMS-HCC model incorporates diagnoses derived from both inpatient and outpatient encounter data and uses the diagnoses, grouped into CMS-HCC categories to model which medical problems are present for each individual and the



Karen Fitzner, Ph.D., is a principal with Fiscal Health in Chicago, Ill. She can be reached at [k.fitzner-alumni@lse.ac.uk](mailto:k.fitzner-alumni@lse.ac.uk).

(continued on page 6)

**I have seen the role of actuaries take two broad forms: 1) that of objective comparative analysis of the various risk-adjustment algorithms available; and 2) that involving projection of revenue for Medicare Advantage (MA) plans.**

Brian Weible, FSA  
Principal  
Wakely Consulting Group, Inc.

sicker patients and rectifies the noted incentive deficiencies in the prior PIP-DCG model. Pope et al. (2004) noted that “Congress’s BIPA (2000) addressed PIP-DCG limitations by requiring the use of ambulatory diagnoses in Medicare risk-adjustment to be phased in from 2004 to 2007 at 30, 50, 75 and 100 percent of total payments.”<sup>5</sup>

As in the creation and deployment of any risk-adjustment system, with the CMS-HCC it is critical to balance the available data and information, the precision of the model and the opportunity to “game the system” when payments are involved. Clearly, the more accurate the model, the more equitably risk-adjusted payments would be distributed. For Medicare, it appears that CMS balanced accuracy with the reality of available information across the span of the Medicare system and chose

likely effect on health-care costs.<sup>4</sup> This allows money to be more fairly directed to plans with

**Table 1: Principles upon which the CCMS HCC Model is based<sup>6</sup>**

Principle	Criteria	Comment
1	Diagnostic categories should be clinically meaningful.	They describe the patient.
2	Diagnostic categories should predict medical expenditures.	They correlate with cost.
3	Diagnostic categories that will affect payments should have adequate sample sizes to permit accurate and stable estimates of expenditures.	They are not outliers.
4	In creating an individual's clinical profile, hierarchies should be used to characterize the person's illness level.	More severe illness within a disease should be coded for the disease.
5	The diagnostic classification should encourage specific coding.	Better coding results in more appropriate categories “turned on.”
6	The diagnostic classification should not reward coding proliferation.	The same disease coded multiple times should not be rewarded more than identifying that the disease exists.
7	Providers should not be penalized for recording additional diagnoses (monotonicity).	Adding more diseases should make someone's cost more or cost the same, but in no event should decrease the cost.
8	The classification system should be internally consistent (transitive).	Order of applying the diagnoses should not matter.
9	The diagnostic classification should assign all ICD-9-CM codes (exhaustive classification).	The CMS-HCC system does not apply all codes, it balances data collection with model specificity.
10	Discretionary diagnostic categories should be excluded from payment models.	This is a reason for having some diagnoses removed from the CMS-HCC model.

**Table 2: Elements of the CMS-HCC Model<sup>7</sup>**

<b>Data Category</b>	<b>Element(s) Involved in Modeling</b>
Demographics	Age/sex categories
Demographics	Medicaid in the base Medicare year (poverty marker) with Sex
Demographics	Originally disabled status as reason for entering Medicare with Sex
Health Status	HCC diagnostic categories (70)
Health Status	Interactions of diagnostic categories with entitlement by disability
Health Status	Disease interactions and Hierarchies

the form of the CMS-HCC system that is currently implemented.

### **CMS-HCC Logistics**

With the HCC risk-adjustment strategy, CMS is choosing to pay according to the medical problems that are present in any patient and not basing the payment on the services that are provided to a patient. This prospective model uses diagnostic data collected today (base year) to predict expenditures next (following) year. The CMS-HCC model is built upon 10 principles (Table 1). In the original HCC models more than 15,000 ICD-9-CM codes were grouped into 804 diagnostic groups and more than 180 cost categories. To reduce the data burden on providers and payers while still maintaining a significant clinical-cost correlation there are only 70 cost categories in the CMS-HCC model. Table 2 presents the elements of the CMS-HCC model. While much of the initial HCC model design and development was undertaken by the CM Office of Research and Development, actuaries have been involved in the model development at various stages of the process.

### **Key Stakeholder Viewpoints**

To better understand overall knowledge and perceptions of, preparedness for, and to identify opportunities for actuaries relating to the advent of HCCs, we conducted interviews with 21 key stakeholders between September 15 and October 17, 2006. A uniform discussion guide was developed containing background on the topic, our hypotheses and seven to 10 questions that were

adapted to obtain the actuarial, integrated health system, physician-hospital organization, academic and practitioner perspectives. Next, we developed a list of potential interviewees from several disciplines and invited them by e-mail to participate. Interviews were conducted either face-to-face, by telephone, and via e-mail with several of the interviews including more than one interviewee. In general, we found that knowledge about and understanding of the BIPA coding requirement and HCC implementation ranges from very basic to expert-level among those interviewed. Cross-disciplinary teams are addressing the topic in the carrier and ambulatory health-care community—actuaries are involved in some, but not all instances.

The main messages from the interviewees are:

- This is an exciting topic and of great interest to all of the stakeholders; it presents many opportunities for actuarial involvement.
- The health plan/carrier and physician/MCO relationship will change as each party gains an appreciation of the impact of more accurate coding on clinical and administrative processes.
- This is a better way to align incentives for physicians and payers and allows managed care to do what it truly aims to do—coordinate care for patients. The model creates financial incentives for providers and plans to better manage the sickest patients.

(continued on page 34)

# Medicare and Medicare Advantage

## Out of the '60s and into the New Millenium

### Part I: Medicare—The First 40 Years ... and Beyond

by Dan Bailey



*Editor's note: This is the first of two articles on the subject of Medicare. This article provides a brief history of traditional fee-for-service Medicare. Medicare's newer programs, Medicare Advantage and Medicare Part D, will be covered in our next issue.*

#### Introduction

By the beginning of the 1960s, the United States was an ascendant superpower with new ideas, optimism, and 15 years of post-war prosperity. In the midst of a mounting cold war, we would be challenged by our visionary young president to think not of what our country could do for us, but what we could do for our country. Kennedy's Camelot presidency was tragically cut short, the nation was in shock, and Lyndon B. Johnson assumed the reins of power. In 1965, after several years of debate and less than two years after Kennedy's assassination, President Johnson inaugurated one of the most sweeping changes in health policy in U.S. history—the passing of Title XVIII of the Social Security Act, Medicare. (Medicaid, Title XIX, was passed at the

same time, but that is another story, of equal importance, for another day). Some of the political opposition to Medicare was fierce, especially amongst providers, many of whom feared its intrusion into the practice of medicine.

Under Medicare, seniors would be provided essential hospital and major medical services. Sixty-five years prior, at the turn of the century, life expectancy at birth was 47—the “age-ins” had already beaten the odds. A century later, that same expectancy was 77. Like the populations of Japan and the western European nations, people in the United States were living longer than ever before. Most of these countries already had social insurance programs in place to protect their societies against ill health in old age. Seniors in the United States, however, had been experiencing difficulty purchasing private health coverage (sickness insurance) after retirement. They were known to cost more than younger people, and the commercial insurance market was not highly hospitable to their predicament. Both Roosevelt in the 1930s and Truman in the '40s leaned toward such a program, which was already underway in dozens of countries all around the world. Although the United States was not first-to-market, so to speak, with this idea of publicly funded health-care, it was quickly and deeply appreciated by more than 18 million seniors with all their collective voting strength, and so begins our story...

#### The Benefit Plan

Medicare is a financial security system and form of social insurance. It was never intended to be total coverage, but was structured to be a reasonably comprehensive package of acute care benefits that would cover the majority of the health-care services that an elderly individual could need. It was not intended to provide long-term custodial care. The most popular commercial health plan during the early 1960s was a two-part combination of a



Dan Bailey, ASA, MAAA, is an actuary at Aetna and can be reached at [bailey-d-1@comcast.net](mailto:bailey-d-1@comcast.net).



Blue Cross Basic Hospital Plan and a Blue Shield Supplementary Major Medical (SMM) plan. The Basic Hospital coverage generally included a deductible; and the SMM incorporated a corridor deductible with coinsurance and possibly an out of pocket maximum. The Medicare benefit was modeled on such a pairing, and its form has largely persisted to this day.

The traditional Medicare A/B benefit (as distinguished from a Medicare Advantage benefit) is composed of two parts. Part A consists of inpatient hospital and other institutional care, such as skilled nursing facility care following an inpatient stay, hospice or home health. Part B covers outpatient hospital and professional medical services including ancillary services, such as lab and x-ray. Except for medical drugs, which are injections administered in the doctor's office, Medicare did not cover pharmaceuticals until 2006 when the Part D program began. Parts A and B are approximately equal in cost.

### Beneficiary Cost Sharing

Traditional Medicare does not have a specific overarching program to manage utilization and keep it under control. As medical technology has expanded, many medical goods and services have become available today that did not exist 40 years ago. Beneficiary cost sharing is one deterrent to over-utilization; provider reimbursement, provider supply and practice patterns also affect it.

In 2006, under part A, the beneficiary must satisfy a calendar year deductible of \$952 at the onset of inpatient care for the first 60 days of care. (In 2007, this will increase to \$992; such indexing thereby helps the government avoid the cost increasing effect of deductible leveraging.) For days 61 to 90, there is a daily inpatient coinsurance, effectively a daily copay of \$238 (\$248 in 2007). For days 91 to 150, the "lifetime reserve days," the copay is \$476 per day (\$496 for 2007). Once the sixty lifetime reserve days are used up, the beneficiary must pay any further days of the same stay entirely out of pocket. There will be additional inpatient days available later in the same calendar year if the subsequent inpatient admission is for a different spell of illness. After the lifetime reserve days (LRD) are exhausted, however, in all subsequent admissions for a unique spell of illness, only 90 days per spell of illness are available.

Seniors have much higher inpatient admissions per thousand than a commercial under-65

population; they also have longer length of stays, and thus greater overall inpatient days. Based on a 1998 Medicare continuance table published in the "health-care Financing Review," very few beneficiaries, about 4 per 10,000, have stays of more than 90 inpatient days. For those unfortunate individuals that have inpatient stays over 90 days and do not have supplementary coverage, however, the cost sharing at 100 percent is significant. Similarly, Medicare covers the first 100 days in a skilled nursing facility (SNF), provided that it follows an inpatient stay; after that, the beneficiary must pay all. There is a \$119 per day SNF copay for days 21 to 100 in 2006; in 2007, it will be \$124.

**As medical technology has expanded, many medical goods and services have become available today that did not exist 40 years ago.**

Part B has a deductible of \$124 in 2006 (\$131 in 2007). After it is satisfied, all Part B covered services also come with a 20 percent coinsurance based on the Medicare allowed amount, which is the set amount that Medicare will pay for a particular service or procedure in a specific county. Medicare beneficiaries also pay a monthly premium of \$88.50 for Part B (\$93.50 in 2007), which usually comes directly from their social security check. Beginning in 2007, beneficiaries with higher income levels will pay more in Part B premium; individuals with income over \$200k annually will pay the maximum \$161.40.

The vast majority of beneficiaries will incur out-of-pocket costs under Medicare. These costs are essentially of two types:

- 1) Non-covered services—For example, as mentioned above, Part A covers only 100 days in a skilled nursing facility or 90 inpatient days per spell of illness. After 90 inpatient days, the beneficiary must pay any remaining days entirely out of pocket. Similarly, Medicare does not cover glasses and hearing aids, but many elderly need and purchase them. Prior to January 1, 2006, Medicare did not cover a pharmacy benefit.
- 2) Cost-sharing on those services that are covered—such as the Part A and Part B deductibles, and the 20 percent coinsurance on

(continued on page 10)

part B office visits, after the Part B deductible is satisfied. On average, member cost-sharing on Parts A and B combined is roughly one-sixth of the total annual cost. For traditional A/B Medicare, which lacks the PCP gatekeeper of HMOs and similar aspects of medical management, the member cost-sharing is one of the few overt deterrents to over-utilization. This is consistent with one of the essential objectives of rate making, which is to encourage loss control. There is no out-of-pocket maximum on Part A or B.

Some of these out-of-pocket health-care costs, which are not paid by Medicare, can be paid for under supplementary coverage—individually purchased Medicare Supplement (also called Medi-Gap) or employer-covered retiree health benefits, which can be either fully insured or self-funded. A very small minority of critics has expressed concern about the various forms of supplementary coverage and their effect on our already burdened Medicare system. They argue that when cost sharing is covered under a supplemental plan, it diminishes Medicare’s disincentive against seeking unnecessary care. Others contend that Med Supp products should cover everything Medicare does not.

### Other Coverage

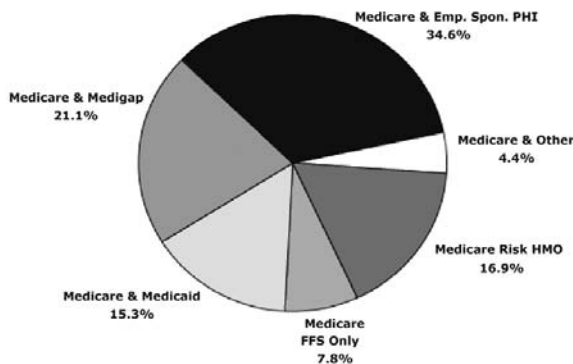
The below chart shows the additional coverage held by Medicare beneficiaries:

Medicaid also covers roughly 15 percent of Medicare beneficiaries. The latter covers the cost of acute care; the former covers Medicare cost-sharing and custodial care (LTC) for those who qualify by having limited income or assets.

Prior to 2006, Medicare did not cover prescription drugs. Some retiree plans covered pharmacy, as did Medicare Supplement plans H, I, and J. In fact, by 2000, pharmacy had become a costly portion of some large employers’ retiree plans, many of which are self-funded. Medicare Supplement (MediGap) is an individual product that was designed to cover what Medicare does not, that is, to fill in the cost-sharing gaps. As a consequence of the Baucus amendment passed in 1980, the MediGap plans must integrate with the changing deductibles of Medicare parts A and B. These various Med Supp “alphabet” plans cover some portion of the beneficiary’s cost sharing—deductibles, copays, and coinsurance, plus some additional benefits, such as foreign travel. The “A” plan covers the least and thus costs the least; it does not cover the Part A deductible. The other plans cost and cover more. The most popular plans cover the cost sharing on all of Medicare’s services.

**Chart 1**  
Types of Supplemental Health Insurance Held by Medicare Beneficiaries, 2000

*Most beneficiaries have private, supplemental health plans.*



Source: CMS, Office of Research, Development, and Information: Data from the Medicare Current Beneficiary Survey Cost and Use Survey (MCBS) 2000 Access to Care File.

### Eligibility and Overall Cost

Like any insurance coverage, social insurance or private, in order to be eligible for Medicare Part A, one must satisfy well-established eligibility requirements. These requirements for Medicare are uniform across the United States. Those that turn 65 are automatically entitled to Medicare if they are entitled to Social Security, which requires 10 years of reasonable attachment to the U.S. workforce. Those who do not qualify for Social Security may still gain entry by paying a monthly premium. Although the entry age for Social Security benefits is scheduled to increase, Medicare is not—but that debate continues.

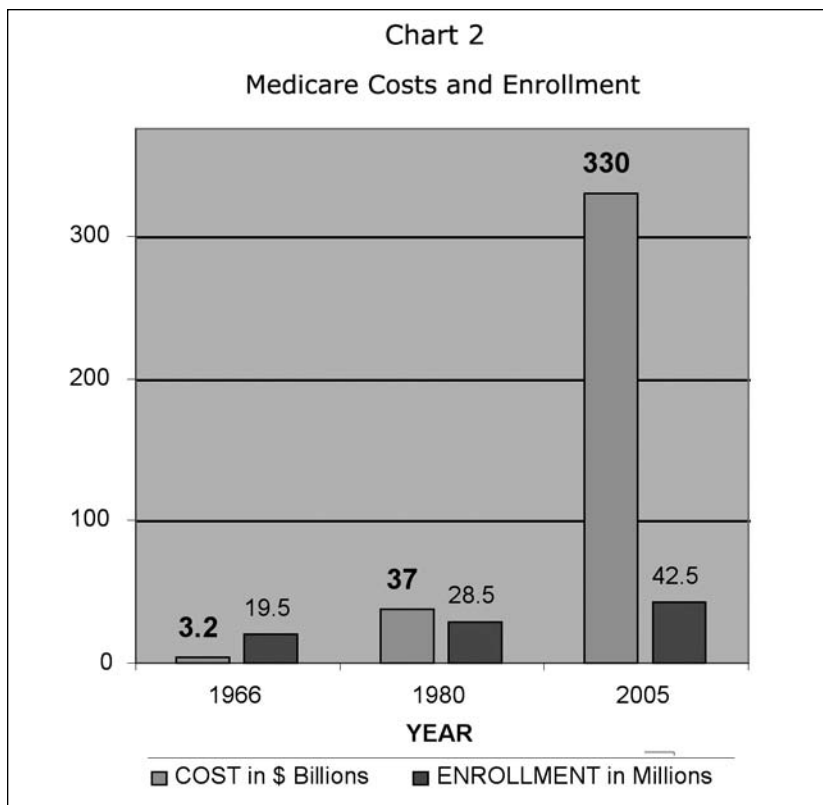
In 1972, in addition to the elderly (those 65 or older), a new Medicare eligibility status was extended to the disabled. Two million disabled beneficiaries were added to the rolls at that time, including those with kidney failure—end stage renal disease (ESRD). The medical care for ESRD members is several times as costly as that of the

average elderly beneficiary, and can approach \$50,000 annually. Some disabled members may be young males with back injuries, for example, whose medical care is considerably less costly than those with ESRD. Today, a full 15 percent of all Medicare beneficiaries are eligible in the disabled category.

By 2006, a total of about 44 million Medicare beneficiaries were enrolled. In addition to more than doubling the number of beneficiaries covered in the first 40 years, the program also became costly quickly, very costly. As illustrated on Chart 2, in 1966, on an annualized basis, the nation spent about \$3.1 billion on Medicare. In 1980, we spent about \$37 billion, and in 2005, about \$330 billion.

Depending on the data source, the overall cost increased about 100-fold, in rounded numbers, during the first 40 years. Admittedly there is some dramaturgy in that representation, because year one, 1966, was a half-year (the program began on 7/1), and the beneficiaries were just getting used to their new benefits. During that same period of time, the U.S. GDP increased about 17-fold. In addition to advances in medical technology, and increases in unit cost and utilization, the aging of the population also helped drive this so-called 100-fold cost increase. The overall growth in the U.S. population and the opening of Medicare to disabled beneficiaries in 1972 also contributed to the increase in enrollment; as a result, the original number of beneficiaries has more than doubled.

Medicare and Medicaid are administered by CMS, the Centers for Medicare and Medicaid Services. It is a federal agency and was formerly called (HCFA), the Health Care Financing Administration, which was established by Secretary Joseph Califano in 1977. At present, about 37 million people are enrolled in traditional Medicare and, as of May 2006, another approximately 7+ million are enrolled in private Medicare Advantage. If you lined up the entire 44 million Medicare beneficiaries four-abreast, they would stretch from coast to coast across the United States—that is a lot of voting power. Because of that political leverage, it is no wonder that politicians are cautious about Medicare revisions, especially revisions that could be perceived as reducing the benefit or eligibility thereto.



### Funding

For Part A, employers and employees each contribute 1.45 percent of payroll toward Medicare; this is the HI payroll tax. Unlike social security payroll tax, HI tax is not limited to a maximum salary level. HI taxes go into the HI (Part A) trust fund. Those who qualify at 65 may have paid into the system for 49 years, from ages 16 to 65, before reaping the reward of their involuntary contributions. Demographic considerations and even time-value of money play important parts in estimates of Medicare income and payouts over a long-term horizon; this is, of course, the natural habitat of actuaries. For calendar year 2004, from a budget perspective the amount of payroll tax that is currently paid in for Part A is about 92 percent of the expenditures. Part B premiums fund 25 percent of Part B cost; the remaining 75 percent is funded from general tax revenues. Compared with the private sector, Medicare's administrative cost, as a percent of total cost, is very low.

The Office of the Actuary provides statistics on the cost of adjudicating claims for Part A and Part B Medicare. Over time, this cost has decreased to

(continued on page 38)

# Section Members Have Their Say

by Peggy R. Hermann

In September, Health Section members were asked to participate in a survey about the section and its services. Participation was significant, with more than 15 percent of Health Section members responding. Project champion Jim Toole commented, "We are pleased to have such a high response rate to the Health Section's first survey in almost a decade. In addition to the quantitative data, we received over 250 comments, which will help the council set the section's strategic direction for the next planning cycle."

## Background

Eighty-nine percent of respondents describe themselves as traditional actuaries. Actuaries with non-traditional employment made up 8 percent of respondents, with the remaining 3 percent being students. Only one respondent described himself as a non-actuary. Not surprisingly, the large majority of respondents worked for either an insurance company (59 percent) or a consulting firm (33 percent).

There were several survey questions covering this newsletter. We were pleased to see that 75 percent of the respondents regularly read *Health Watch* and that the level of content and frequency of publication is "just right" for most of our

members. Almost 80 percent of the respondents indicated that members would prefer to receive the newsletter electronically, either in addition to a paper copy or in electronic form only.

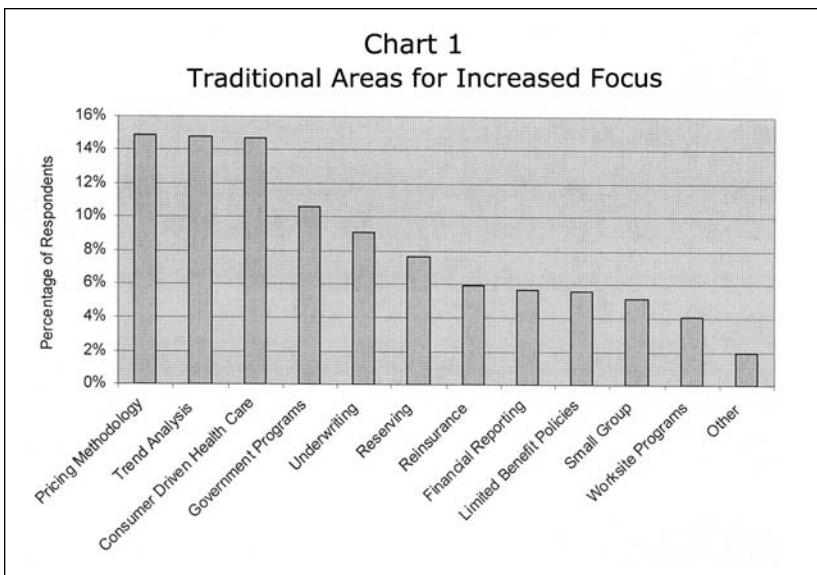
## Section Services

Section members were asked to indicate how well they thought the Health Section was serving different constituencies (traditional actuaries, non-traditional actuaries, students and non-actuaries) in each of four areas: annual meeting offerings, *Health Watch*, seminar offerings and spring meeting offerings. For traditional actuaries, the majority of members felt that the section was doing a good or excellent job in all four areas. The best area appeared to be the spring meeting offerings, with 33 percent of respondents indicating that the section was rated "excellent." The area that appeared to need the most improvement was annual meeting offerings, with 17 percent choosing a rating of "poor." The rating of services for non-traditional actuaries and students had similar results.

One purpose of the survey was to get input from members regarding the strategic direction of the section. Charts 1 and 2 rank the traditional and non-traditional areas that members would like to see an increased focus by the section.

Jodie Hansen, spring meeting chair, was enthusiastic about the results. "It's fantastic to have this member feedback in time for the crafting of the 2007 Health Spring Meeting agenda. As a result, we'll be adding sessions on health policy and expanding the depth of sessions on pricing methodology and trend analysis. Expect to see an impressive agenda for our spring meeting as a direct result of the survey."

Based on answers to questions about Health Section resource allocation, it appears as though members would like to see a little less resources spent on traditional actuaries and a little more spent on the other constituents (students, non-traditional actuaries, non-actuaries). However, responses did indicate that the largest portion of



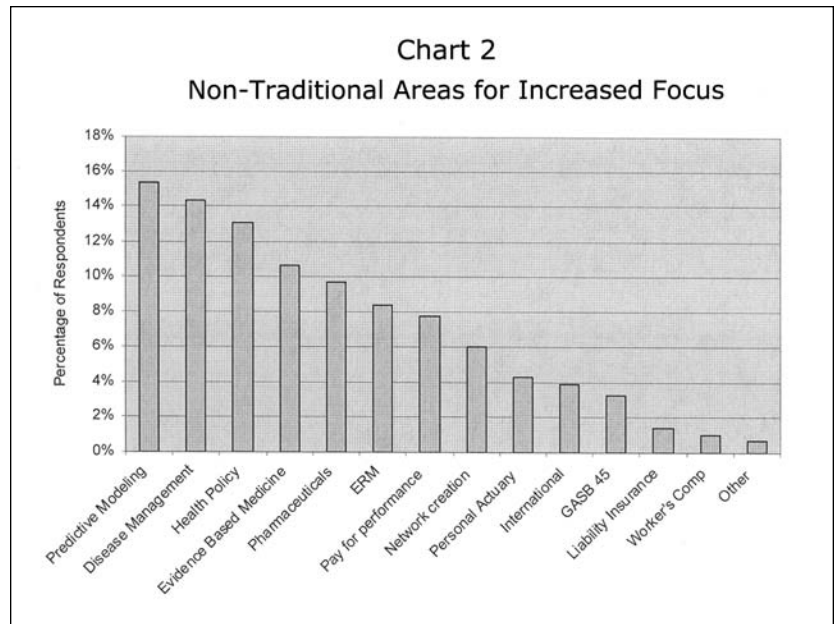
section resources should continue to be spent on traditional actuaries.

## Candidate Quality and Supply

Regarding the supply of health actuaries, 51 percent of you thought that the supply was “just right,” while 44 percent thought that there are fewer actuaries than needed. For those of you looking to hire actuaries, responses were split fairly evenly between having trouble and not having trouble in finding candidates. For those of you having trouble hiring, 80 percent of the responses indicated that the problem was due at least in part to the quality of available health actuaries.

The issue of quality was reiterated in many of the written comments for this section. The responses ranged from comments like “the level of actuarial rigor needs significant improvement” to “there is a good supply of fair candidates and a limited supply of quality candidates.” Many cited that ASAs/new FSAs or junior health actuaries are hard to find. There seems to be an agreement overall that there is a shortage of experienced health actuaries. Some responses point to outdated skills and knowledge, while other responses pointed to younger actuaries having a narrow focus. Medicare Part D, MMA and GASB45 were also cited as impacting supply. People skills and communication skills were also found lacking in candidates.

One thing that is clear from these results is that more investigation is needed regarding the quality of health actuaries. While the comments provided in the survey were helpful in highlighting the quality issue, more information is needed about the



specific concerns people have with the pool of actuarial candidates. We would be very interested in having a more detailed dialog with persons in the position of hiring health actuaries. We will be looking into having either a follow-up survey on this issue or a discussion session on this topic at the spring meeting; please contact Jim Toole at 336.768.8217 if you are interested in participating.

Thank you to all who responded. 📧

*Editor's note: The views and opinions are those of the author and do not necessarily represent the views and opinions of KPMG LLP.*



Peggy R. Hermann, FSA, MAAA, is a manager with KPMG, LLP in Radnor, Pa. She can be reached at [mhermann@kpmg.com](mailto:mhermann@kpmg.com).

## Online Dues/Section Membership Renewal

Now you can pay your annual dues and sign up for the SOA and IAA professional interest sections with our new easy-to-use online payment system! Just visit <http://dues.soa.org>.

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# Pandemic Influenza's Impact on Health Systems

by Max J. Rudolph



The world has endured three influenza pandemics during the past 100 years. It is likely to suffer through more in the future. How effective will health systems be under these severe stresses? Recently, an influenza virus has appeared that reminds many of the 1918 virus, which resulted in the most severe pandemic in recorded history. By jumping directly from birds to humans, the H5N1 virus has done something not seen since then. The lethality of the current virus is high, with more than 50 percent of the reported cases dying. Most feel the virus must mutate to a less deadly form before it spreads broadly. A global pandemic requires a virus that does not kill its host so quickly that he or she can't infect others.

## Scenarios

The U.S. federal government has created two population scenarios. The moderate one, modeled after the 1957 and 1968 pandemics, is not expected to have a material impact on mortality. These historical pandemics maintained the normal "U" shape of the age-based mortality curve. The severe pandemic scenario would be expected to kill about 2 million Americans, less than 1 percent of the population. In addition to the higher overall level of deaths, the impact on the healthiest individuals differentiates this scenario. Following 1918 pandemic experience, the shape of the mortality curve is a "W," with excess mortality between ages 15 and 40.

A pandemic that impacts the strong requires a health system to be open to new realities and new solutions. Who will be the caregivers? Young health-care professionals would be among those most at risk. How will the virus interact with secondary infections? These will vary by country and, in 1918, included pneumonia and malaria. How will those with impaired immune systems cope? What about smokers? Will these groups be the most impacted, or will the virus attack elsewhere?

The moderate scenario assumes 90 million sick, with fewer than 1 million requiring hospitalization. If the severe scenario came to pass, the health system would clearly be overwhelmed with nearly 10 million seeking hospitalization. Many of the sick would not be able to get more than the most basic of care. Assuming that you would not be reimbursed for care not received, the legal system will likely be tested for firms that guarantee service without providing it.

Some prognosticators assume that health claims in the severe scenario will spike by as much as 40 percent, while others expect lower paid claims as the system shuts down and elective surgeries are postponed. Reinsurers have been studying pandemic risk and can help define scenarios, especially as they relate to insured versus population results. Those receiving continuing services such as dialysis and chemotherapy, or someone expecting to deliver a baby during this period, should consider alternatives.

## Impact on People

With 30 percent of the population expected to be sick, and many more caring for them, work absences are expected to be as high as 40-50 percent. In a recent survey of individuals by the Harvard School of Public Health (Pandemic Influenza Survey September 28-October 5, 2006), knowledge of future pandemics and how the respondent would react was addressed. More than half, 57 percent, expected to face serious financial problems if they missed a month of work. While many firms have developed pay plans for employees in the event of a pandemic, 22 percent of respondents did not know if they would be paid. Honest communication, both in advance and

during a pandemic, will make a big difference toward successfully dealing with a pandemic.

Early in a pandemic situation no one will know which scenario is playing out, and reports will be vague. Fear and rumor will initially rule the day. Some families will go into lockdown mode. Others can't afford to miss work even to take care of family members, resulting in higher contact rates. The experience in Turkey, when H5N1 appeared, is enlightening. The health-care system was overwhelmed as many with cold symptoms were tested for bird flu. Health-care workers will be exposed to the virus more frequently than the general population. This will further strain the health system as they stay home to care for themselves and their families. While volunteer caregivers can perform basic measures, administering much of today's care requires advanced training. Families will need employers to be flexible, especially if schools, malls and places of worship are closed during a severe pandemic.

How long can a local health system operate if supplies are delayed? Oxygen for ventilators and basic supplies like laundry soap, antibiotics and rubber gloves are expected to be in short supply. Communities need a plan. This should include encouraging each home to stockpile food, water, communications gear and trash bags. Not only will this help reduce the impact of pandemics, but events such as snow storms, cyclones and earthquakes.

## Insurance Products

In many countries, health-care is provided by the government. Even in the United States, almost half is paid by government agencies. An influenza pandemic will clearly put financial stress on all countries that attempt to provide care to citizens. The impact on a defined-benefit type pension system, such as Social Security in the United States, will depend on the shape of the mortality curve.

Of the products offered by health insurers, major medical will have the greatest immediate impact since this is the coverage used for doctor and hospital care. Less clear is the impact on policies like long-term care and disability income. Short-term disability will clearly be impacted. It is likely that future underwriting for these policies will look for conditions such as permanent damage to the lungs and heart as sales surge after a pandemic.

Those companies self insuring their employee benefits should also consider these scenarios. At the same time their business might be suffering due to the pandemic, employee benefit costs will spike.

One often-neglected aspect of reputational risk is the possibility that insurers may not be considered part of the solution during a stress event like a pandemic. If a life insurance benefit payment is delayed during a pandemic, it is unlikely to cause a public furor. Health insurers with major medical coverage will truly be overloaded with work at the same time as employees are focused on caring for their families.

Insurers might need to act as banks, loaning money to hospitals and employees. Even economic risk may be significant for health insurers. During a severe scenario, premiums may be waived or deferred. With claims spiking, a company's asset portfolio will need to provide liquidity.

## Priorities

One of the major challenges facing the health system is determining who does not get care when the system is overburdened. While these public health decisions should be made in advance of a stress event, politicians don't want to be associated with telling potential voters they will not get care.

One group providing unsolicited advice on this topic is the Minnesota Center for Health-Care Ethics. This think tank assumed the "W" shaped mortality curve of 1918. They suggest that limited supplies of vaccine be prioritized first to support the community infrastructure (key government leaders, public health and public safety workers), groups expected to be high risk yet receptive to the vaccine (the healthy young), and caregivers. They assume it will take six months to develop a vaccine, suggesting a flexible game plan that can be adjusted on the fly as it becomes apparent which age groups are most at risk.

Notable in this plan is the conscious decision not to initially provide those who are likely to have lesser responses, such as the elderly and infants, with the vaccine. Those with compromised immune systems are also placed far down the list. The study assumes that someone with immunity to the virus through previous exposure can be identified and avoid a redundant vaccination. While this plan appears to be well thought out and useful, keeping a vaccine off the black market and making it available to all during such an event will be challenging.

For more information on pandemic influenza, monitor the Society of Actuaries' pandemic Web site and the current SOA research project being led by Jim Toole. 📧



Max J. Rudolph, FSA, CFA, MAAA, recently formed Rudolph Financial Consulting. He is currently a member of the SOA Board of Governors. He can be reached at [max.rudolph@rudolphfinancialconsulting.com](mailto:max.rudolph@rudolphfinancialconsulting.com).

# **Navigating New Horizons ...**

## **An Interview with Ron Bachman**

by Anne Guenther



Ronald  
Bachman

*Editor's note: Many actuaries are much more than just problem solvers; they are leaders within their organizations and communities who are assuming expanding roles. As these actuaries further cultivate their analytical and leadership skills, they are breaking the mold of convention and bridging actuarial science into other areas that stretch the traditional definition of what it means to be an actuary. Navigating New Horizons is a new feature that will introduce you to a few such individuals who are shaping decisions within varying spheres of influence to drive change in the health-care arena.*

*In our last issue, we introduced you to some early leaders of the Health Section. We continue our series by interviewing Ronald E. Bachman, FSA, MAAA, to explore how he has led the charge to provide expertise and leadership on health-care policy at both state and national levels. Bachman is president and CEO of*

*Healthcare Vision, Inc., and a senior fellow of the Center for Health Transformation and the Georgia Public Policy Foundation as well as a fellow of the Wye River Group on Health. The major goals of Healthcare Vision are to advance consumer-based solutions, lower the number of uninsureds, improve mental health coverages, develop the concept of consumer-centric Medicare and Medicaid and advance employer introductions of health-care consumerism.*

*Anne Guenther: Ron, what aspects of your professional and personal experience influenced your decision to help lead change in health policy?*

**Ron Bachman:** I have always been interested in mathematics, business, sales and politics. In my first actuarial job, I discovered that an actuarial career combined my math skills with direct access to top management and business decision making. Later, my research and product development assignments lead to working with marketing and sales support opportunities. Health-care, my chosen path of actuarial science, has been a major social and political discussion. Actuarial input is valued in all of these areas. Actuaries can make a difference by weaving technical skills and competencies with people skills.

My own personal experience with actuarial work is that, in general, health-care actuaries tend to work for or on behalf of large institutions—insurers, large employers, major hospital systems, union groups and regional/national organizations. I found a particular enjoyment in reaching through the institutional assignments and focusing on how my work was impacting individuals and families.

*Guenther: With your foundation as an actuary, what triggered your pursuit to take your interest in health policy to the national level?*



**Bachman:** I discovered that politics mattered. Laws and regulations mattered. Businesses can only operate within the laws and regulations passed at the state and federal levels. Rather than just applying actuarial skills within the restriction and limitations of existing parameters, I sought to change the rules through education and input to key political contacts and policymakers. I had ideas and wanted to create change.

*Guenther: So, what steps did you take to get involved with the political arena? Please provide a brief overview.*

**Bachman:** My first movement into the “actuarial political” realm was a 1991 consulting assignment to develop a mental-health-specific pricing model. The WDC client wanted to understand a federal commission’s work (Pepper Commission, chaired by Senator Jay Rockefeller (D-WV)) that suggested a national universal health plan with a flexibility to offer an “actuarially equivalent” design. The commission’s work was the pre-cursor to the Clinton proposal for national health-care (Health Security Act) during 1993-94.

In developing the costs for mental health, Senator Ted Kennedy (D-MA) became aware of my work and asked for actuarial assistance. I was then connected to the White House task force on mental health. The American Academy of Actuaries involved me in a review of the proposed plan designs and costs of national mental health coverage. In 1996, I worked closely with Senator Wellstone (D-MN) on the cost impact of mental health parity. I produced several cost reports on alternatives. With the passage of the 1996 Mental Health Parity Act, I was engaged by an Association to provide actuarial support to states debating implementation and expansion of mental health insurance laws. I testified in over 30 states on the costs and implications of mental health parity. Today millions of individuals in 42 states have expanded mental health benefits and the security of needed coverage. I continue to work with Sen. Kennedy, Sen. Domenici (R-NM), and Rep. Patrick Kennedy (D-RI) for national mental health parity legislation.

My work on mental health and health-care issues lead me to Senator Bill Bradley (D-NJ). I provided input to Sen. Bradley’s health-care interests during his various presidential forays.

*Guenther: How did you continue this involvement in politics to influence health policy?*

**Bachman:** Lest one thinks that I am involved on only one side of the political spectrum; I became a member of Newt Gingrich’s Congressional Committee in 1992. Speaker Gingrich represented my home district in Georgia. I participated in his district meetings and discussions. He asked me to chair a Medicare Advisor Board in 1996. That report provided key citizen’s input to 1997 Medicare Reforms. Newt held up the report on *Meet the Press* as an example of grassroots ideas that can make a difference.

**Rather than just applying actuarial skills within the restriction and limitations of existing parameters, I sought to change the rules through education and input to keep political contacts and policymakers.**

In 1998, Speaker Gingrich left office to directly pursue work on health-care transformation, global leadership and national defense. He called me for advice and counsel. We shared an interest in transforming health-care to save lives and save money. We discussed initial research ideas and drafts of transformational models. I was also working separately with creative minds at the Wye River Group on Health (WRGH). At WRGH, we put together a ground-breaking report entitled “An Employer’s Guide to Patient-Direct Health-care.”

In September 2001, Speaker Gingrich introduced me to Mark McClellan, the chief health-care policy advisor to President Bush. We were initially scheduled to discuss removing the use-it-or-lose-it provisions of flexible spending accounts (FSAs). By

(continued on page 18)

the time we met, it was clear to me that the work I was doing on consumer-driven health-care for the Wye River Group on health was reflective of a major transformational movement underway. At the meeting with the White House, our recommendation was to change the regulations that had been an official “no ruling” area for over 20 years. With continuing interaction and personal relationships, I worked through Newt and the White House to assist the U.S. Treasury Department as they developed the June 26, 2002, guidelines that created health reimbursement arrangements (HRAs).

relationships with Treasury, White House, and Congressional contacts. It is probably the single most important activity and outcome I will recount to my grandchildren, to point to my footprint in health-care change that empowers individuals to deal with their health and health-care purchases.

***Guenther: What you described is indeed a significant change in health-care for individuals. With that accomplishment, what was your next step in the political arena?***

**Bachman:** In 2003, Speaker Gingrich used me as a sounding board for health savings accounts (HSAs) legislation that was a part of the 2003 Medicare Modernization Act. From previous relationships developed with the earlier work on HRAs, I became a resource for both the White House and Treasury on developing HSA regulations and interpretations. Again, many others with better legal minds were inputting to the process, but the ability to add an actuarial perspective proved valuable to policy makers.

In 2002, Speaker Gingrich founded the Center for Health Transformation (CHT) to support the development of a 21st century intelligent health system. This focus on health-care has provided innumerable contacts into Congressional leadership, legislative sponsors, White House contacts and regulatory support. With health-care continuing to be a social and political debate, involvement with influential think-tanks provides credibility for actuaries and actuarial insights to policy makers.

***Guenther: What has the culmination of your experience and political involvement lead to?***

**Bachman:** In 2005, after more than three years of seeking a “retirement mission,” Speaker Gingrich convinced me to take early retirement to solve the uninsured problem in the United States. In 2006, I became a senior fellow at the CHT. My interests are the uninsured, expanding mental health coverage, continuing the consumerism transformation

**The important part of any political work is an open and honest representation of actuarial work. Any personal opinions are better received if one establishes a bipartisan credibility for honest numbers.**

***Guenther: In what way did this political shift in health policy change the health-care market?***

**Bachman:** For the first time, conservatives had a new language for health-care ideas: personal responsibility, self-help, self-care, ownership, portability, transparency and consumerism. Market-based solutions could be identified with as a viable alternative to government provided health-care. Consumerism offers the possibility to empower individuals rather than government or industry bureaucrats.

***Guenther: And, what were challenges and outcomes of this change?***

**Bachman:** There were significant legal and regulatory challenges that nearly defeated the effort. Many individuals and groups were involved in White House meetings and conference calls to make this historic beginning for health-care Consumerism possible. The follow up rulings and regulatory clarifications solidified a number of

through federal and state legislation that supports the next generations of health-care Consumerism.

*Guenther: At the national level, what's important for actuaries to know when considering involvement in the political arena?*

**Bachman:** The important part of any political work is an open and honest representation of actuarial work. Any personal opinions are better received if one establishes a bipartisan credibility for honest numbers. In Washington, D.C. credentials mean something. The designation Fellow of the Society of Actuaries (FSA) and Member of the American Academy of Actuaries (MAAA) means something. They are recognized as equivalent to PhDs.

*Guenther: And how about the state level?*

**Bachman:** State involvement is also important. I am a senior fellow at the Georgia Public Policy Foundation. I am working through state legislators and the governor's office to create change at the state level. The actuarial skills are recognized and highly valued by state policymakers and legislators.

*Guenther: What is an example of a prime opportunity for actuaries that you see in the future?*

**Bachman:** As more baby boomers seek to move from "success to significance," there are opportunities and roles for actuaries to impact lives on a very personal level. We can move beyond numbers, charts and graphs to recognize how we can impact individuals, families and children with our input to policy makers at the federal and state levels.

*Guenther: So, how does an actuary get involved?*

**Bachman:** Prepare technically, seek opportunities to become involved, be honest to your profession, be open and thoughtful to ideas, recognize that "real change requires real change," think creatively and out-of-the-box, think ahead and listen-learn-lead. Have a point of view. Keep a long-term perspective and believe that one person



can make a difference. Align your life's interest with a mission orientation.

*Guenther: Thanks Ron. To wrap up this discussion, with what closing thoughts would you like to leave us?*

**Bachman:** Actuarial science is a rewarding career that allows one to work with leaders like Sen. Kennedy and Speaker Gingrich, the American Enterprise Institute and the Carter Center. Assisting key political leaders is a heady and humbling activity, especially for a political junkie. Thank you SOA and AAA for the professional background and credentials that provide a reason to get up every morning with excitement and enthusiasm! 🇺🇸



Anne Guenther, MBA, is the marketing communications manager in the Denver office of Milliman.

# The Impact of Health Benefit Mandates: The California Review Program

by Joseph P. Fuhr, Jr.



The cost of health-care in the United States is increasing faster than the inflation rate. Presently 15 percent of GDP is being expended on health-care, and this percentage has been increasing significantly over time. The premium increases for health insurance have far outstripped the inflation rate. One issue that has been purported to have increased the rate of health-care expenditures is state health benefit mandates.

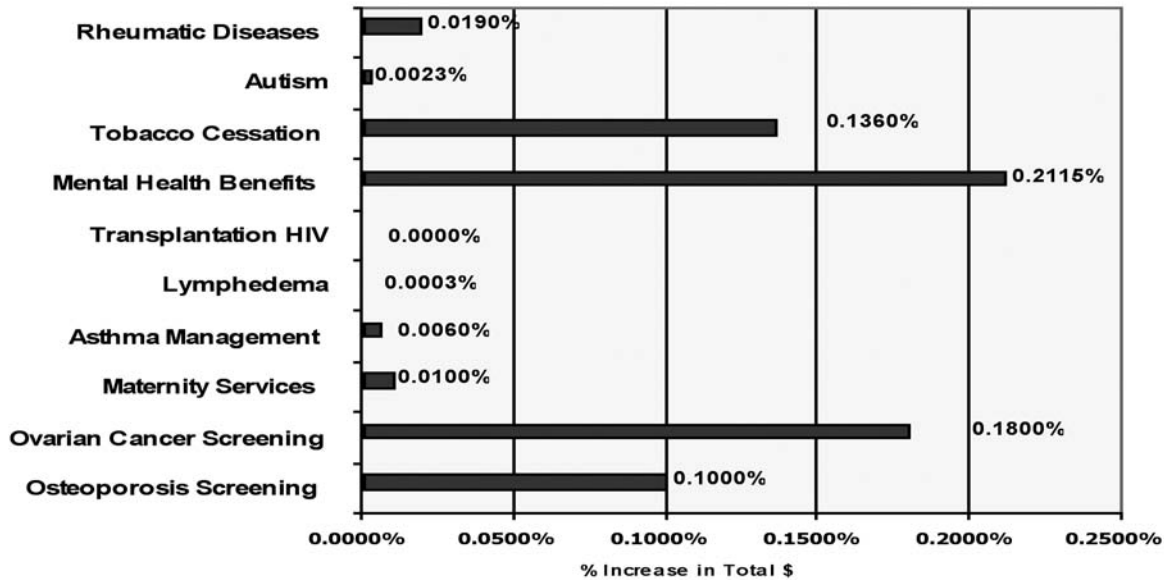
These mandates generally require health insurance companies to provide coverage for specified services to their enrollers as mandated by the state. As each new mandate is required, the cost of this new benefit is passed onto the payer in terms of high premiums and thus higher health-care expenditures. However, very little research has been done on the actual cost impacts on these mandates. For this reason the state of California enacted legislation in 2002 to create the California Health Benefits Review Program (CHBRP). CHBRP is charged with estimating the impact of all new health benefit mandates proposed by the

California legislature. Each proposed mandate is analyzed for cost impacts, public health impacts and medical effectiveness. CHBRP has 60 days from the time of a formal request to analyze a proposed mandate and submit its analysis to the legislature.

UCLA's Center for Health Policy Research and Milliman, Inc. were commissioned to perform the cost impact analyses. They have developed a model that estimates the financial impact of proposed mandates. The model uses a baseline expenditure and population approach and estimates the marginal cost of a proposed new benefit. The average incremental expenditure per enrollee is estimated by combining the increased insurance premium and consumers' out-of-pocket expenditures. It also takes into account whether increases in the mandated service will decrease other health-care costs such as inpatient care or emergency room visits. The analysis excludes self-insured groups and individuals since they are not part of the mandates. More than 20 million Californians are potentially affected by these proposed benefit mandates, depending on the extent of current coverage.

The estimate of the mandate's impact takes into account that some members had the benefit before the mandate and that not all members will use the mandated service. Thus, the change in utilization resulting from the mandate is measured. This methodology measures the incremental cost of the mandate and not the total expenditure for the service. Since its inception CHBRP has examined the cost impact of 26 different mandates. As shown in Table 1, the results from 10 of those analyses were conducted during the first two years of the program show small marginal cost impacts from these mandates ranging from zero for coverage of transplantation services for HIV to 0.2115 percent for requiring cost-sharing parity for non-serious mental health benefits. These percentages are the increase in total expenditure in the state. The small

**Table 1: Marginal Costs of Mandated Benefits**

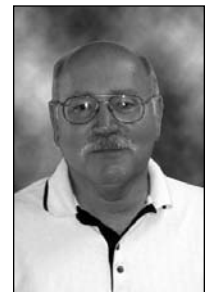


percentage increase for mandates is not surprising when one considers that in the state of California in 2006, CHBRP estimates \$49.461 billion was spent on insurance premiums.<sup>1</sup> However, a 0.1 percent increase represents an added expenditure of around \$49.5 million. Even though the overall impact of each individual mandate may be small, the cumulative effect of the increased number of mandates will represent a higher amount. Also, given these are averages for the entire system, the individual impacts on various insurance companies' premiums will vary.

Because the analysis is for a 12-month period, it does not take into account the potential benefits of these mandates in the long run. Preventative care or disease management programs such as a smoking cessation program, child vaccine or diabetes care may not affect the demand for health-care very much in the first 12 months but could have a considerable impact on the beneficiaries' lifetime health-care expenditures.

CHBRP is a valuable tool that gives public policy makers a better understanding of the short-run cost impacts, public health impacts and medical effectiveness of proposed health benefit mandates.

The topic, "The Impact of Mandates—Lessons from the California Health Benefits Review Program," was featured at the 3rd Annual Health-care Professional Community Seminar on Tuesday, Oct. 17, 2006, from 4:00 to 6:00 PM at the Swiss Hotel, Chicago, Ill. The speakers were Jerry Kominski, Ph.D., professor, health services and associate director, UCLA Center for Health Policy Research and Bob Cosway, consulting actuary, Milliman, San Diego. The SOA Health Section's Professional Community Team sponsors this annual event. It provides an opportunity for health professionals who are interested in collaborative research to meet and learn and brings together the perspectives of leaders from the actuarial, research, and health policy communities. 📧



Joseph P. Fuhr, Jr., Ph.D., is a professor of economics at Widener University and an economic consultant and adjunct research professor in the Department of Health Policy at Thomas Jefferson University. He can be reached at 610.499.1172 or at [jpfuhr@widener.edu](mailto:jpfuhr@widener.edu).

<sup>1</sup> This does not include self-insured plans.

# Soundbites from the Academy's Health Practice Council



## What's New

Subsequent to a recent SOA study and the Surgeon General's report that confirmed secondhand smoke causes lung cancer and heart disease, the Academy has released a fact sheet on secondhand smoke. The Academy's senior health fellow, Cori Uccello, summarized the implications of the study that estimated costs related to diseases caused by secondhand smoke. Both the fact sheet and a news release can be found online at [http://www.actuary.org/pdf/health/smoking\\_oct06.pdf](http://www.actuary.org/pdf/health/smoking_oct06.pdf) and [http://www.actuary.org/newsroom/pdf/smoke\\_oct06.pdf](http://www.actuary.org/newsroom/pdf/smoke_oct06.pdf).

An updated practice note on group long-term disability insurance has been released. It can be found on the Academy's Web site at [http://www.actuary.org/pdf/practnotes/health\\_group06.pdf](http://www.actuary.org/pdf/practnotes/health_group06.pdf).

With policy makers exploring different pooling mechanisms as a means to expand the availability of health-care coverage, the Academy Small Group Market Task Force developed the issue brief *Wading Through Medical Insurance Pools: A Primer* to provide background information on the types of medical insurance pools and how they operate. The issue brief also explores how changes within a multiple small-employer pool would affect medical

costs and the potential effects of introducing a new rating mechanism in an existing insurance market. The September 2006 issue brief is available on the Academy Web site at [http://www.actuary.org/pdf/health/pools\\_sep06.pdf](http://www.actuary.org/pdf/health/pools_sep06.pdf).

In August, the Academy's Federal Health Committee sent a letter to the chairperson of the Citizens' Health-Care Working Group offering to provide an actuarial perspective on issues related to the working group's interim recommendations. The working group was created as part of the *Medicare Prescription Drug, Improvement and Modernization Act of 2003*, and over the past year they have been responsible for initiating a national discussion among U.S. citizens on issues related to the health-care system. The Academy letter highlights numerous health-care issues that could benefit from an actuarial perspective as final recommendations are considered. The letter is available on the Academy Web site at [http://www.actuary.org/pdf/health/coverage\\_aug06.pdf](http://www.actuary.org/pdf/health/coverage_aug06.pdf).

The Medicare Supplement Work Group wrote a comment letter to the NAIC's Senior Issues Task Force Medicare Modernization Subgroup. The comment letter focused on transition issues of actuarial concern and the Work Group has continued to monitor the Subgroup's progress. A copy of the letter can be found online at [http://www.actuary.org/pdf/medicare/medigap\\_aug06.pdf](http://www.actuary.org/pdf/medicare/medigap_aug06.pdf).

## Ongoing Activities

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

### Consumer-Driven Health Plans Work Group

(Jim Murphy, Chairperson) – This work group is developing an issue brief to respond to some frequently asked questions on Health Savings Accounts.

### **Disease Management Work Group**

(Rob Parke, Chairperson) – This work group is currently drafting a practice note in the area of disease management. It is expected that the note will be ready for public comment by early 2007.

### **Health Practice International Task Force**

(Mike Abroe, Chairperson) – This task force continues to keep abreast of international discussions that affect the health arena.

### **HPC Extreme Events Work Group**

(Jan Carstens, Chairperson) – This work group is developing a paper that examines health-care issues associated with natural disasters and pandemics. They are looking at issues including the types of extreme events, types of risks and risk mitigators. They hope to publish a paper in the next few months.

### **Individual Medical Market Task Force**

(Mike Abroe, Chairperson) – This task force continues to work on two papers related to how the current individual market operates. They are examining issues related to affordability and barriers in the individual medical insurance market.

### **Long-Term Care Principles-Based Work Group**

(Bob Yee, Chairperson) – This work group is discussing current principles-based methodology and the implications of the Academy's Life Practice Council's work on the area of long-term care.

### **Medicaid Work Group**

(Leigh Wachenheim, Chairperson) – This work group continues to work on a long-term projection and analysis project as well as other Medicaid issues.

### **Premium Deficiency Reserves Work Group**

(Donna Novak, Chairperson) – This work group is working on a white paper for actuaries and regulators on the topic of premium deficiency reserves. A future project includes a practice note on the area.

### **Uninsured Work Group**

(Karl Madrecki, Chairperson) – One subgroup is looking at issues related to the fundamental principles of insurance and the characteristics of health insurance, and a separate subgroup is looking at issues related to health-care costs.

### **NAIC Projects**

The Stop-Loss Workgroup continues efforts to update its previous report on risk-based capital to the NAIC.

Other issues that we continue to monitor include LTC, retiree health, health insurance issues, Medicare Part D, principles-based methodologies, Medigap modernization, etc.

### **Upcoming Activities and Publications**

The Health Practice Council has begun planning for 2007. One of their first activities will be the Capitol Hill Visits, which will occur in the first quarter of 2007.

Several documents are slated for publication by the end of 2006 or in early 2007 including the papers on HSAs, health-care quality, extreme events and Medicare.

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 Holly Kwiatkowski at [Kwiatkowski@actuary.org](mailto:Kwiatkowski@actuary.org) or GERALYN TRUJILLO at [Trujillo@actuary.org](mailto:Trujillo@actuary.org). 📧

# Health-Care Predictive Modeling Tools

by Marjorie A. Rosenberg and Paul H. Johnson Jr.

## Introduction

The Society of Actuaries Health Section sponsored a six-part Webcast during the months of July and August of 2006 to enhance the basic understanding of actuaries in the development and application of predictive modeling. Each part consisted of one hour of lecture by two experts, followed by 30 minutes of questions and answers. This article provides an overview of the material covered in the Webcast series.

The first three presentations provided a basic introduction to the topic, while the last three presentations were more application-oriented. The expert presenters were generally either physicians or actuaries (one was both). Table 1 contains the titles of each presentation and the names and credentials of each of the presenters.

Interested readers may purchase CD-ROMS of the audio and handouts from the Webcasts at: <http://www.soa.org/ccm/content/research-publications/bookstore/cd-roms/>. Inquiries may be directed to [smartz@soa.org](mailto:smartz@soa.org).

### Part 1. Introduction to Predictive Modeling Tools and their Applications Webcast (July 19, 2006)

Moderator Karen Fitzner, PhD, Society of Actuaries  
Presenters John Haughton, MD, MS, CEO, Chief Medical Officer of DocSite, LLC  
Keith Passwater, FSA, MAAA, Director of Wellpoint

### Part 2. Simplifying the Mystery of Predictive Modeling with Worked Examples Webcast (July 26, 2006)

Moderator Dan Dunn, PhD, Senior VP of IHCIS-Symmetry  
Presenters Iver Juster, MD, VP of ActiveHealth Management (New York)  
Rebecca Owen, FSA, MAAA, Principal of Solucia Consulting

### Part 3. Leveraging Predictive Modeling Tools to Measure Program Performance Webcast (August 2, 2006)

Moderator Karen Fitzner, PhD, Society of Actuaries  
Presenters David Axene, FSA, MAAA, FCA, President of Axene Health Partners, LLC  
William Vennart, MD, MBA, National Medical Director of CareAdvantage, Inc.

### Part 4. Recent Findings about Advanced Predictive Modeling and Algorithmic Techniques Webcast (August 9, 2006)

Moderator: John Stark, FSA, MAAA, Regional VP of WellPoint  
Presenters Jon Eisenhandler, PhD, 3M Health Information Systems  
Ross Winkelman, FSA, MAAA, Principal of Milliman, Inc.

### Part 5. Advanced Underwriting Applications for Predictive Modeling Webcast (August 16, 2006)

Moderator: Ian Duncan, FSA, MAAA, FCIA, FIA, President of Solucia Inc  
Presenters Robert Bachler, FSA, FCAS, MAAA, Vice President of American Re HealthCare  
William Lane, FSA, MAAA, Principal of Heartland Actuarial Consulting, LLC

### Part 6. Advanced Care Management Applications for Predictive Modeling Webcast (August 23, 2006)

Moderator Jeff Harner, CIGNA HealthCare  
Presenters Chris Stehno, MBA, Milliman, Inc.  
Howard Underwood, MD, MBA, MS, FSA, MAAA, Deloitte Consulting, LLP



Predictive modeling involves the use of data to forecast future events. In the context of health insurance, predictive modeling typically uses health-care data to predict future utilization and costs. What is clear from all of the presentations is that “predictive modeling” is a very broad term used to describe the modeling process. As mentioned in Part 1, predictive modeling follows the usual statistical modeling process (as per Klugman, Panjer and Willmot on page 2 of their Loss Models book), by defining the problem to be studied, collecting the appropriate data and expert knowledge, determining a model through the choice of a reasonable method, estimating the unknown parameters and deciding on the final form of the model. Each of these steps is the subject of a wealth of material and beyond the scope of this article.

As presented in Part 1, predictive modeling is used for (i) actuarial purposes, such as the risk adjustment of government programs or the underwriting and pricing of groups, (ii) medical management, to stratify risks for clinical management, and (iii) evaluation of program effectiveness, such as clinical and financial outcomes. What is clear is that no one model or approach will serve all purposes. However, for the specific intended purpose, the model chosen should be reliable and provide reasonable forecasts.

The intended purpose of a predictive model can suggest a modeling approach and appropriate input data. There are many good choices of modeling approaches; some are better than others, but usually no one choice is the best. As with other statistical modeling, judgment is needed to help balance the complexity of the model choice and time needed to complete the analysis, with the simplicity in its implementation and comprehension of the results.

## **Applications of Predictive Modeling**

Examples of intended purposes were provided throughout the Webcast series. One example, presented in Part 1, discussed an approach to identify future high-cost cases. In Part 2, an example was shown to assign a person a risk score based on relevant variables such as age, sex, diagnoses and Medicaid eligibility. Predictive modeling can be used to develop more accurate trend assumptions and can help analyze case mix. In Part 2, it was

stated that predictive modeling can help explain the sources of individual-level variability and enable a better homogeneous stratification of risk.

In Part 5, an example of small group renewal underwriting was presented. Many carriers use predictive models to supplement the underwriting process and not as a replacement. Historic costs, together with calculated risk scores for individuals within a group, were used to compute the premium for the following year.

Also in Part 5, predictive modeling examples were presented using data at the individual level to measure changes in the health status of a block of business over time in forecasting future costs. Another purpose of predictive modeling was to predict losses at the individual level when a carrier was paying only for excess costs.

**Predictive modeling involves the use of data to forecast future events. In the context of health insurance, predictive modeling typically uses health-care data to predict future utilization and costs.**

Predictive modeling for use in medical management was discussed in Part 6. Predictive modeling tools could be used to determine when to intervene in patient care. Earlier identification and management aids in minimizing the deterioration of health, possibly changing patient behavior, and providing more cost-effective care. Parts 3 and 4 discussed various clinical classification systems used in medical management and other predictive modeling applications.

Another major area of predictive modeling was risk adjustment. In Part 4, Winkelman discussed the SOA-sponsored study that compared various proprietary risk adjusters from different vendors. This study updated an earlier study by Cummings and Cameron (2002). Eleven different risk adjusters were studied, with various data input requirements, such as diagnoses only, pharmacy only, prior costs and combinations. The study is available on the SOA Web site under Research, on the Health Section page.

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Another area of the use of predictive modeling is in excess loss pricing. In Part 5, an example demonstrated how predictive modeling would be useful to estimate the risk score of individuals with specific, high cost diseases, such as diabetes. Then given their risk score, claim costs by individual would be simulated and summed for a small group of individuals resulting in a distribution of simulated costs. From this distribution, claim costs over a specific deductible could be determined.

## Data

Data sources for the models used in medical management were from health assessments, medical claim data, lab values, pharmacy claim data and electronic medical records. In Part 6, one presenter advocated the use of lifestyle data that is publicly available. Today self-reported data is not incorporated as stated in Part 2, but that may change in the future.

**Other models used past or concurrent data to predict future utilization and cost, as in the estimation of episode avoidance or future utilization.**

The actual variables used in predictive models differ from one application to another. Some models used concurrent data to measure concurrent utilization and cost, which could be used in profiling applications or assessment of complication avoidance. Other models used past or concurrent data to predict future utilization and cost, as in the estimation of episode avoidance or future utilization. Some models used the entire distribution of claims for pricing purposes, or censored the data at some level, like \$50,000 or \$100,000. In Part 4, the concept of partial exposure and lagging of data was discussed. Health-care data were usually incomplete because of people moving between groups or insurers. Health-care data were also incomplete due to the timing of the analysis relative to the claims history.

Part 2 discussed many of the data issues. Completeness of the data referred to whether the

data, such as claims data, was coded or whether the diagnosis codes captured all five digits. Another issue was that the coding system itself was vague and errors could occur in certain settings, or deliberate miscoding could occur to increase reimbursement. This leads to another data quality issue of consistency. Data between providers or from different geographical areas for similar conditions could be coded differently and would bias the results. Understanding the data and the populations from which the data were produced were critical to producing credible results.

## Models and Measures of Fit

The types of methods used in creating a predictive model include regression-based methods, survival analysis, decision tree methods, and rules-based methods to create a classification system for the risks.

The commonly used statistical measures for goodness of fit were discussed by several of the presenters. One measure used was the ordinary linear regression  $R^2$  that summarized the percentage of the total variation explained by the model. As a side note, this statistic is not useful in models that are non-linear, such as logistic models, or those where the distribution of costs is not normal. In addition, it is well known that the usual  $R^2$  statistic is artificially increased with the addition of more explanatory variables. Instead, an adjusted  $R^2$  is used that considers these additional explanatory variables in the linear model.

Other measures of fit were mean absolute prediction error, predictive ratios by condition or by quintile, sensitivity and specificity (Receiver Operating Curves, ROC curves), or Lorenz curves (plotting one distribution function for one variable against another distribution function for another variable). In addition to the fit of the model, a measure is used for the return on investment for program effectiveness, as for disease management programs.

Part 1 provided an overview of considerations in using predictive models that was further expanded in Part 3. Predictive models were able to combine information from various sources. These models may not differ dramatically in terms of their goodness of fit, so the use of the models may

hinge on the ease of obtaining data, ease of implementing the model and comprehension by the clients. If the model is too complex or depends on proprietary information, then the usefulness of the model is reduced.

## Summary

With the greater availability of data and the power of computers, more reliance on statistical methods can occur in the future. Today, predictive modeling is used in risk classification for pricing, as well as in clinical management. Enhanced training for actuaries in the creation and use of a variety of statistical techniques will allow for increased complexity of the models and the potential for greater explanatory power.

With the prevalence of more sophisticated statistical models comes the responsibility of greater disclosure, such as standard deviations of parameter values and of predicted values. It is not sufficient to say that the data were risk-adjusted, but to state clearly the method of risk-adjustment. In addition, limitations of the data, such as the coding schemes, the clinical classification system used, or the timing of the data, should be clearly stated. Modeling of utilization and cost data requires the development of statistical models that are not based on the normal distribution, and the use of summary measures other than  $R^2$  are needed. Statistical models that incorporate the truncation and censoring of data, as well as the calibration of models to specific situations, are necessary to adjust for exposure and data lag and other practical implementation issues. ❏

## References

- 1) Robert Cumming, Brian Cameron, and Brian Derrick. "A Comparative Analysis of Claims-Based Methods of Health Risk Assessment for Commercial Populations." 2002. [http://library.soa.org/library/monographs/health\\_benefits/M-HB96-1/M-HB96-1\\_II.pdf](http://library.soa.org/library/monographs/health_benefits/M-HB96-1/M-HB96-1_II.pdf)
- 2) Stuart Klugman, Harry Panjer and Gordon Willmot. Loss Models: From Data to Decisions. In the spirit of Klugman et al., I have referred to this concept as censoring rather than truncation. Censoring means

that if you have data recorded at \$100,000 it means \$100,000 or greater. Truncation at \$100,000 means that claims with amounts above \$100,000 are totally excluded from the analysis. 1998. NY: Wiley.

- 3) Yang Zhao, Arlene Ash, John Haughton and Benjamin McMillian. "Identifying Future High-Cost Cases Through Predictive Modeling." *Disease Management and Health Outcomes*. 2003, 11(6): 389-397.



Marjorie A. Rosenberg, Ph.D., FSA, is associate professor with the School of Business and Department of Biostatistics and Medical Informatics with the University of Wisconsin-Madison. She can be reached at 608.262.1683 or at [mrosenberg@bus.wisc.edu](mailto:mrosenberg@bus.wisc.edu).



Paul H. Johnson, Jr., is a Ph.D. candidate in Actuarial Science, Risk Management & Insurance with the University of Wisconsin-Madison. He can be reached at 608.262.4189 or at [pauljohnson@wisc.edu](mailto:pauljohnson@wisc.edu).

# ***Is Rapid Transformation of the U.S. Health-Care System Possible?***

## ***Reflections from a Year in England***

by Jodie Hansen

**I**t was New Year's Eve 1999 when I left Seattle on a mostly empty plane to London. I brought three suitcases, five boxes and a sprinkle of experience with international health system consulting. Sure that the United States had much to learn about improving access to and affordability of health-care services, I was hoping my year in the United Kingdom would expose me to the benefits and drawbacks of the famed single-payer system. While I was fairly certain that a national health-care system would not work for the diverse and expansive United States, I was also fairly certain enlightenment could come from a system that was governed so differently than the commercial health-care marketplace back home.

The first week in England was frantic. With no living arrangements yet established, I spent the majority of the time finding a flat, opening a bank account and completing paperwork. Everyone I met seemed to speak a different version of English, none of which I could understand. By day three I finally found some free time, a coffee shop and a copy of the *Financial Times*.

The *FT* was covering Harold Shipman, the English physician who would be convicted that year of murdering 15 patients and later thought to have killed more than 200 others, making him the most prolific serial killer in the country's history. The case was one element sparking a series of criticisms and proposed reforms of what was popularly being called England's National Health System (NHS) crisis. New entities were established to monitor health-care quality, rules governing data capture and reporting were being rewritten, and power and accountabilities were shifting to favor local control and oversight. By the end of the week I was wondering how I would make any sense of what appeared to be a chaotic time in the history of the NHS.

The answer came from a packed office building south of London in Epsom. Our consulting group was small but well diversified:

- Several English actuaries with pension, life, long-term care and health backgrounds;
- A Welsh doctor;
- A French health actuary;
- A former NHS analyst,
- a business consultant; and
- me as the U.S. health actuary.

Our work covered a wide range. We created hospital case mix modeling in the United Kingdom with what little data was available. We valued companies for mergers and acquisitions in Spain and The Netherlands, needing to translate annual reports and financial statements in the course. We worked with local private medical insurance carriers to price products that would complement the coverage already offered by the NHS. A French regional health authority had us design a funding proposal for better serving its diabetic population. A third-party administrator review brought us exposure to both the TPA environment and the brokerage environment in Italy. The work was interesting and steady, and I was learning every day. My greatest education on health-care system dynamics, however, came from colleagues and outside experts who generously shared with me their insights on England's primary care system restructure.

### **Primary Care Restructure: Directing Nationally, Empowering Locally**

Parliament had just issued new rules transferring some management of health-care resource allocation to Primary Care Groups and Trusts (PCG/Ts). This represented an opportunity for primary care

practice owners, who were formerly limited in income by the salary they received from the NHS plus practice expenses. Groups and Trusts appeared very much to be cousins of staff model HMOs, but would be operated by primary care offices and local health authorities. Setting up a PCG/T was complicated and risky, but if successful could target local needs and improve many aspects of health-care provision for the community it served.

I was lucky that several people involved in establishing PCG/Ts were willing to speak with me about their processes and goals. A woman from a rural clinic told me about how the PCG/T she was helping create would re-direct funding to outreach efforts to under-served populations with language barriers in the hopes of reducing the walk-in strain on local primary clinics without the skilled resources to handle translation and ensure compliance rates with prescribed treatments. A suburban doctor was hoping the PCG/T he was forming would provide a shift of funding from hospitals to the over-worked provider offices in the hopes of being able to attract more physicians to the community. A gentleman in an urban health-care authority shared with me his team's plans to reduce waiting list time and ensure that the right experts were treating the right patients through care coordination and the establishment of facility centers of excellence. Each process involved different players, and each project had different goals aimed at what the local communities felt they needed to better serve the local population.

Witnessing the evolution of Primary Care Groups and Trusts was inspiring. In the short course of a year, strategies for improving community health systems were both crafted and executed. By the end of the year some ventures were already able to report initial results, although most were a year away. Not being burdened by a fee for service reimbursement system or strict national government reporting standards, results data were focused on clinical outcomes and patient satisfaction. The speed of formation and dedication to identifying desired outcomes and measurements upfront were impressive.

Also impressive about the creation of Primary Care Groups and Trusts was the coordination between what otherwise might have been

disjointed limbs of the health-care system. Often PCG/Ts were formed through cooperation of physician groups, local health-care authorities, patient groups, public and private hospitals and other community organizations. Time once spent managing processes and handoffs was being redirected to outreach efforts, improvements in communications and waste reduction.

Of course there were failed experiments in the formation of Primary Care Groups and Trusts as well. Cooperation between various stakeholders was not always present, motivations were not always selfless, and organization and leadership skills were sometimes lacking. But the successes were clear and refreshing. The stereotype that a national health-care system could not move quickly to serve local needs was wrong. The key to affecting this appeared to be the right combination of direction and funding from the national level coupled with the empowerment of local stakeholders to both identify, implement and judge the success of the solutions most needed by the local community.

## Bringing Lessons Back to the United States

Just after Christmas in 2000 I shipped my boxes home, found a new job in Seattle and prepared for the re-entry shock I knew was coming after living abroad for a year. I was as grateful for the return to drier weather, consistent water pressure and my family and friends as I was for the lessons the past year's experience had taught me. Having the opportunity to study the NHS while it was in the process of transition was indeed enlightening. I learned that affecting change in the English National Health-care System was possible in a short period of time. And since this was possible, then rapid transformation of the U.S. health-care system should be possible as well.

As the U.S. debate over the structure and priorities of its health-care system continue, I will remember the lessons of my year in England. National direction and funding can lay the groundwork for impacting change. More important, however, is clear local prioritization and implementation with active support from stakeholders. This combination could be the key to rapid transformation of the U.S. health-care system. 📧



Jodie L. Hansen, FSA, MAAA, is senior director of actuarial analysis for Regence's Blue Cross and BlueShield plans in the Pacific Northwest. She can be reached at [jodie.hansen@regence.com](mailto:jodie.hansen@regence.com).

or one of the other options that lowered the net cost of providing retiree benefits.

### What Have We Learned in One Year?

As with any new government program, there have been growing pains as plan sponsors and health plans gained familiarity with Part D. Lessons learned along the way include:

- *All plan sponsors must do something.* Many plan sponsors assumed they could ignore Part D if they did not offer retiree prescription drug coverage. However, if any Medicare-eligible individuals, spouses, or dependents are covered under the active plan, the plan sponsor must issue a creditable coverage certification to help them avoid late-enrollment penalties in the future. In many cases, health insurers assisted their customers by providing the creditable coverage status of the pharmacy benefit and guidance on notification requirements.

most neglected of these tasks, leaving many retirees frustrated and confused. To avoid these problems this year, plan sponsors should:

- o Communicate early and often through multiple vehicles
  - o Understand that retirees require extra hand-holding and prefer traditional forms of communication, such as printed materials and brochures
  - o Ensure that Medicare-eligible actives receive creditable coverage notices and alert them to the financial penalties they face for going without creditable coverage
  - o Understand that dual-eligible members (people who are both Medicare- and Medicaid-eligible) may require special attention
- *All options require some effort from plan sponsors.* Many plan sponsors initially viewed the RDS as the path of least resistance based on guidance from the Centers for Medicare and Medicaid Services (CMS). However, this option requires detailed eligibility reporting, actuarial equivalence testing, and claim cost submission for eligible expenses. In the end, some of these same plan sponsors found the process costly, cumbersome, and not always worth the effort, even with the cost relief provided by the RDS. This was often the case for plan sponsors with a small number of retirees since the administrative overhead cost and effort necessary for the RDS option does not vary much with group size.
  - *There is not a one-size-fits-all solution.* To make an educated decision on the optimal approach, consideration of all Part D options is crucial. Many plan sponsors opted for the RDS because it seemed the easiest course of action, but doing so may have left money on the table. For example, while the RDS is attractive to many for-profit organizations (since the subsidy is tax-free), it is less attractive to tax-exempt organizations. Also, as mentioned

**In the end, some of these same plan sponsors found the process costly, cumbersome, and not always worth the effort, even with the cost relief provided by the RDS.**

- *Communication is crucial.* The introduction of Medicare Part D caused significant confusion among seniors in the latter half of 2005 and beginning of 2006. Seniors with retiree pharmacy coverage were no exception and had to digest the information provided by their former employer as well as the federal government. When plan sponsors had to make plan design changes to qualify for a particular option, they often scrambled to handle the necessary implementation and reporting challenges, and communicate the plan changes to covered retirees. Communication was often the

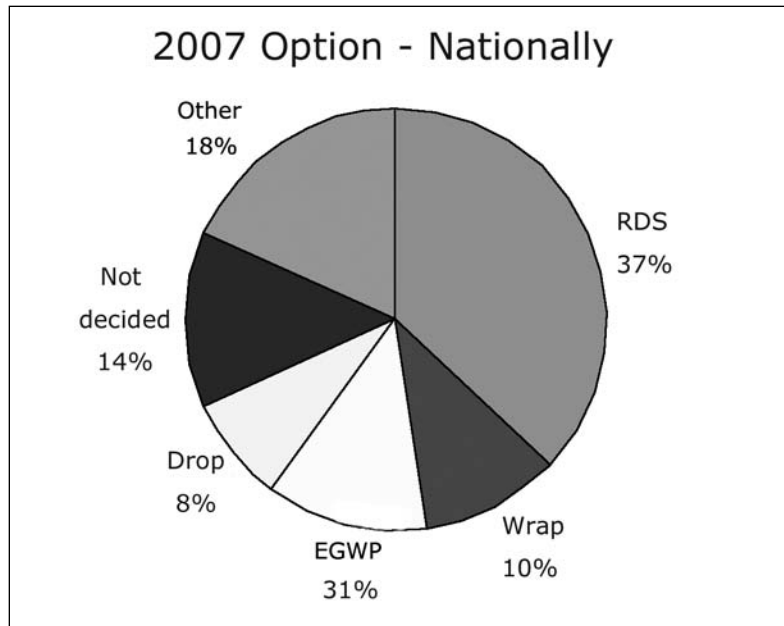
previously, the addition of administrative costs influences the financial comparison between all options. Plan sponsors need to perform a quantitative analysis, weigh the potential savings for each option, and overlay this comparison with the qualitative factors (i.e., disruption) before making a decision.

### Where Do We Go from Here?

Based on the survey results presented earlier, the RDS option appears to be losing popularity: Only 37 percent of plan sponsors surveyed were certain they were going this route in 2007, compared with 59 percent for 2006. Some analysts expect this trend to continue into 2008 and beyond. (See table to the right).

Part D strategies for 2007 will be affected by several developments, including:

- **More interest in and availability of options other than the RDS.** There is significantly more interest in pursuing non-RDS options, in particular the EGWP option, as plan sponsors have begun comparing other options qualitatively and quantitatively with the RDS. For 2007, 13 percent of plan sponsors nationally have decided on the EGWP option, compared with 5 percent in 2006. However, the movement toward the EGWP option may be dampened somewhat based on the significant decrease in the EGWP subsidy for 2007. This results from the lower than expected national average Part D bid amount (\$80.43) and member premium (\$27.35) released by CMS in mid-August. This means that the direct subsidy will decrease from \$60.10 in 2006 to \$53.08 in 2007. Further, competitive pressure on Part D bids is likely to prevent large increases in the direct subsidy in 2008.
- **Medicare private fee-for-service (PFFS).** This option is garnering more interest from national plan sponsors because Medicare-eligible retirees can receive medical services from any physician or hospital willing to accept Medicare payment terms from the carrier. In



- addition, current payment rates make PFFS an attractive option (at least until CMS adjusts their relationship to the 100 percent Medicare FFS level). PFFS plans can be easily paired with prescription drug benefits from EGWPs, thereby simplifying benefits administration for nationwide plan sponsors.
- **Financial reporting changes.** Both public and private plan sponsors are likely to be impacted by potential accounting changes. On the public side, the Governmental Accounting Standards Board (GASB) issued a technical bulletin on June 30 stating that the retiree health-care liability can only be reduced by the amount of one year's worth of RDS payment. This was disappointing to public plan sponsors looking for cost relief toward their future retiree health-care liabilities. The EGWP option, however, provides a larger GASB 43/45 liability reduction. On the private side, the Financial Accounting Standards Board (FASB) started a project last November to address the accounting treatment of pensions and other post-retirement benefits. Ultimately, this project is expected to require reporting of additional balance sheet liability. Both the GASB and

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FASB accounting rules could prompt plan sponsors to take a fresh look at all of their retiree coverage offerings.

Plan sponsors are just beginning to understand the variety of alternatives to reduce costs associated with the prescription drug coverage they offer retirees beyond the RDS option. To select the option best suited to their needs, plan sponsors should:

- Review their current retiree coverage offerings;
- Analyze all Part D options from a financial and administrative standpoint;
- Assess Part D options in light of present and future company goals; and
- Prepare and follow through on implementation and communication strategies.

Plan sponsors that have not already made decisions for 2007 should act immediately. Plan sponsors that have not reevaluated their options since making their initial decision in 2005 could benefit from another look.

## Citation

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Towers Perrin and the International Society of Certified Employee Benefit Specialists. "Employer sponsors With Retiree Drug Benefits Charting Different Courses for 2007." March 6, 2006.

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Results summarized from these surveys for two questions:

- a) What is/was your response to Medicare Part D coverage in 2006?
- b) What is your anticipated response to Medicare Part D coverage in 2007?

Results from each survey were given equal weight, with all five surveys answering the first question but only the latter three surveys listed answering the second question. Undecided responses to the first question due to the timing of the surveys were not included. ❏



## MEDICARE PART D OPTIONS FOR PLAN SPONSORS

Option	Advantages	Requirements	Comments
<b>Retiree Drug Subsidy Option (RDS)</b>	<ul style="list-style-type: none"> <li>Maintains the current benefit plan(s)</li> <li>Can use the same administrator, insurer, and/or pharmacy benefit manager</li> <li>Allows plan sponsor to realize fairly predictable savings while assessing other, potentially more complex approaches</li> </ul>	<ul style="list-style-type: none"> <li>Plan sponsors must engage a qualified actuary to certify eligibility for the 28 percent tax-free RDS on allowable retiree costs between \$265 and \$5,350 (2007 values, indexed annually). The actuary must attest that the plan sponsor provides coverage at least as rich as the Medicare Part D benefit (creditable coverage) and contributes a sufficient premium contribution toward coverage for RDS eligibility</li> </ul>	<ul style="list-style-type: none"> <li>Will likely remain, at least for the immediate future, the preferred option for offering retiree prescription drug coverage</li> <li>Due to the tax incentives, for-profit plan sponsors gain the most benefit from the RDS</li> <li>Large plan sponsors (1000+ retirees) used this approach more frequently in 2006, probably because they offered richer benefit designs that met the RDS standards for coverage</li> <li>Often the optimal financial decision for large, for-profit groups</li> </ul>
<b>Wraparound Supplemental Plan</b>	<ul style="list-style-type: none"> <li>Provides a benefit equivalent to current coverage at a lower cost</li> <li>Easy to communicate the benefit structure to retirees because of its similarities to Medicare Part A and B wraparound plans</li> </ul>	<ul style="list-style-type: none"> <li>Must coordinate benefits between primary and secondary plan sponsors</li> </ul>	<ul style="list-style-type: none"> <li>Plan sponsors offer secondary coverage and condition the coverage on the retiree's enrollment in individual Part D. The secondary coverage could fill in coverage gaps (i.e., Medicare's deductible and coverage gap) and/or reduce retiree cost-sharing</li> <li>Attractive to tax-exempt organizations because of the ability to achieve greater cost savings than the RDS</li> <li>The major stumbling point with this option in 2006 was the uncertainty of coordinating benefits between the primary and secondary coverage in the initial year. Some pharmacy benefit managers were unable to provide this capability in 2006. CMS has created a clearinghouse for coordination of coverage that should increase the viability of this option in 2007</li> </ul>
<b>Employer Group Waiver Plans (EGWPs)</b>	<ul style="list-style-type: none"> <li>Largely maintains the current benefit plan(s)</li> <li>Eliminates coordination of coverage issues by using a single pharmacy administrator</li> <li>Retains control over the benefit plan through formulary and medical management, if becoming own EGWP</li> </ul>	<ul style="list-style-type: none"> <li>Must add federal catastrophic benefit</li> <li>Must have deductible less than the standard Part D deductible</li> <li>Must have total coverage greater than or equal to standard Medicare Part D coverage</li> </ul>	<ul style="list-style-type: none"> <li>Plan sponsors can use CMS waiver provisions to maintain group prescription drug coverage by implementing their own EGWP or purchasing an EGWP from a vendor</li> <li>Although the waiver provisions are designed to lessen compliance requirements and minimize administrative burdens to become an EGWP, many plan sponsors used vendors for this option in 2006</li> <li>Attractive to some tax-exempt organizations because of the ability to achieve greater cost savings than the RDS</li> <li>Likely to be popular for groups with a small number of retirees and public sector plans with lean pharmacy benefits</li> <li>Also attractive to plans that don't qualify for RDS because their retiree premium contributions are too high</li> <li>This option should gain popularity going forward as more carriers begin to offer EGWPs</li> <li>Timing can be an issue because final pricing decisions cannot be made with these plans until August (at the earliest) when CMS releases its Part D national average bid and premium amounts</li> </ul>
<b>Dropping Coverage</b>	<ul style="list-style-type: none"> <li>Inexpensive approach that protects retirees from catastrophic prescription drug costs (if contributing toward their individual Part D premium)</li> </ul>	<ul style="list-style-type: none"> <li>Employers must remain in compliance with existing labor contracts</li> <li>Plan sponsors eliminate their current retiree drug coverage and can pay none, some, or all of their retirees' Part D premiums</li> </ul>	<ul style="list-style-type: none"> <li>The average monthly individual Part D premium for 2006 was roughly \$24 per retiree</li> <li>Most plan sponsors opted against this approach (some due to collective bargaining agreements) in 2006</li> </ul>

- Implementation of the CMS-HCC system does not alter the way that plans pay and handle claims. It does create incentives for dialog between the plan and the provider related to the clinical status of the provider's patients.
- Possible outgrowths of the HCC effort include identification of patients for disease and case management and pay for performance (P4P).
- CMS has done a good job of addressing issues in the planning phase and this has made implementation relatively "doable."

The responses from key interview themes are summarized in the next several paragraphs.

**One of the best roles Medicare Advantage health plans can play is as a data aggregator; coordinated care health systems can track patients over time and would be able to help Medicare improve the health of Medicare beneficiaries and control health-care costs.**

John Bertko, FSA, MAAA, VP and chief actuary, Humana Inc. and member of the Society of Actuaries

*Role of the Actuary*

We asked if actuaries will have a role to play in supporting and advising health informatics staff in achieving full implementation of the CMS-HCC requirements.

Nearly all interviewees concurred and indicated that actuaries have to be part of the process as it goes forward. Two interviewees pointed out that the lead role has already been taken by health informatics. Actuaries can help answer questions about expected disease burden within populations, identify those who are likely to have higher or lower levels of illness/risk than is indicated by the coding provided to payers and help health-care providers and payers adapt to the new system. The actuarial role is fundamental to the HCC effort and most respondents expect to see it increase over time. The opportunities for actuaries arising from

100 percent implementation of HCC include leading other parts of their companies or health-care systems to fully comply with the requirement, identifying and developing by-products and related uses for the collected information to create an analytic, financial or clinical identification advantage, and mining data to give valuable feedback for actionable steps throughout the revenue and reconciliation periods. At a minimum, actuaries will be involved in the translation of the model into Medicare Advantage payment rates.

*Health Plan and Medical Practitioner Preparedness and Acceptance*

We inquired about the current activities in plans and practitioner environments as they relate to the CMS-HCC risk adjustment process.

Preparedness ranges across size and sophistication of the physician practice, MCO and health plan. We estimate that 80 percent of health plans now take coding very seriously and the early adopters have seen gains in revenue due from risk adjustment activities and more accurate coding protocols. Historically, we know from other prospective payment systems developed by CMS over the past 10 or so years that more credit was given to providers who coded more completely, were early adopters and who wisely invested in software, education and infrastructure. This group got the biggest advantage. This indicates that while a health plan may get more revenue, the net amount paid to plans may not change because the costs they face will be higher. There are some early indications within the Medicare Advantage community that modification involving 5-15 percent of the premium may be attainable through accurate coding initiatives. Clearly plans who work with their ambulatory care providers, assisting in patient identification through historical claims analysis as well as ongoing monitoring of patient clinical profiles throughout the revenue year will certainly have a fiscal advantage over plans that do not engage in pro-active analytics for the CMS-HCC process.

Health plans are supportive of Medicare's work and applaud CMS for phasing in the regulations so that logistical problems could be addressed over time. This process has given providers time to learn to submit better, more accurate data to health

plans and allowed health plans to prepare to meet the HCC requirements for data submission and auditing. Plans engaging with physicians and sharing resources to improve clinical identification and care will reap more benefits than the ones working within the confines of the plan infrastructure.

Migration to 100 percent risk-based payments means something different for every health plan. Risk adjustment can be very beneficial for plans that cover a high morbidity population and effectively manage the care of their beneficiaries. However, for other plans that have relied on the demographic system to buoy a less efficient care delivery model or on a non-random recruiting model that has tended toward healthier-for-age patients will quickly find their strategies to be disadvantageous in a risk-adjusted, diagnosis-based payment system.

#### *Ambulatory Care Provider—Medicare Advantage (MA) Carrier Relationship*

We examined whether the new system might impact upon plan and provider collaboration and dialog.

Most interviewee's indicated that the health plan and physician relationship will change suggesting that efforts to collect more accurate data from physicians will lead to better connectivity between the health plan and practitioner. The quality and density of diagnostic data will increase in importance for all stakeholders of the CMS-HCC models. The same systems that make CMS-HCC risk-adjustment data collection more effective, will also be used to increase the collaboration between plan and provider as it relates to clinical management. Not much change is expected where the Medicare carrier and the managed care organization already have a method in place for identifying patient risk/severity. At a minimum, however, payers now have an increased motivation to assist physicians with clinical data capture. A closer relationship with plans and physicians will lead to everyone doing a better job in caring for patients.

#### *Aligning Incentives*

We hypothesized that changed incentives within the CMS-HCC model would impact positively on patient care.

The CMS-HCC model offers incentives for clinical care that is effective. Care that prevents acute exacerbations of chronic disease, or modulates the exacerbations to keep them less intense is at the core of effectively managing patients in a prospective risk-adjusted payment model. Rewarding effective care delivery at the provider level, then, should lead to increased incentive for the providers to offer and execute care that may take more time up front, but results in fewer avoidable hospital days. Plans are ensuring that some of the funds will be passed through to the providers who care for sicker populations effectively. The prospective risk-adjustment payment model may in fact coordinate both risk-adjustment and pay for performance programs, at least within Medicare. In the commercial as well as Medicaid sectors, where risk-adjustment has a longer history on the ambulatory side, the risk adjustment process creates winners and losers relative to the per-capita reimbursement target. Medicare has a much stronger role with risk adjustment than the commercial insurers/health plans serving those under 65 years of age. Patients over 65 typically carry more burden of chronic disease than younger patients. The impact of risk-adjustment in Medicare, therefore may be felt more abruptly than in the commercial or Medicaid worlds.

**I think they will all find the new model to be better; it will help patients of all levels of illness be able to better access the care they need.**

Beth Heckinger, CFOM, Prosthetist  
Hanger Prosthetics & Orthotics

The CMS-HCC model embodies likely future trends. In particular, there will be a shift in focus from payment for production and reporting to payment for performance, quality and improved outcomes. Furthermore, price transparency will be of growing importance as will investment in IT systems and training that allows providers to follow

(continued on page 36)

best practice, avoid medical error and wasteful duplication and assists consumers in making better health-care decisions. By having better diagnostic data, plans will likely have better data from the provider in general. Better data has the potential to lead to better coordination between the provider and plan for multiple reasons. With the improved two-way information stream the plan may be able to more easily and effectively implement pay for performance (P4P) for its providers. As diagnostic information becomes more accurate, the plans ability to utilize the data to profile provider effectiveness in the care process will increase.

### **Actuaries can help get “folks off the dime” to accept new coding requirements.**

Henry G. Dove, Ph.D, of Casemix Consulting, LLC and lecturer, Yale University Health Management Program

#### ***Retooling***

We asked about the impact of the requirement and if it necessitated retooling of systems and processes within the organization.

One actuary said, “Absolutely, as only a small percentage of health plans and provider groups are 100 percent conversant with risk adjustment and its parts.” Other respondents felt there would be few fundamental changes as actuaries are already helping to risk adjust and most ambulatory providers are already doing a good job clinically for their MA beneficiaries. Both providers and plans, however, aim to improve the quality and accuracy of coding to better comply with the requirements. History reveals for other reimbursement changes, that plans have hired armies of chart reviewers, performed statistical studies to identify coding issues, and hired third-party vendors to review the accuracy of payments as well as the coding skills of their own providers. With CMS-HCC, there is potentially an even bigger issue than in the past, as HCC risk-adjustment relies on *provider diagnoses* for plan payment. Providers typically rely on procedure

codes for provider payment. With CMS-HCC, providers have to acquire new knowledge and plans may or may not be equipped to speed up the process.

It is clear from the interviews that there are different levels of understanding and motivation for change and maximizing effectiveness regarding the CMS-HCC risk-adjustment strategies within and among the communities involving the payers, providers and organized provider groups involved in Medicare Advantage. There will be and is an evolution occurring that has the potential to enhance payer-provider interactions and relations by aligning the need for systems and the reimbursement processes regarding Medicare. In the meantime, there are still some specific actions that can be taken for the 2005-2007 years.

### **Next Steps—Payments and Reconciliation—Opportunity Now and Moving Forward**

As part of the CMS-HCC logistics, a plan can submit supplementary diagnostic information during or after the revenue year. The deadline for modifying 2005 diagnoses is January 2007. For 2006, there will also be a year lag until the supplementary deadline comes. On the outpatient side, CMS requires a diagnosis from the medical record that is part of a “face-to-face visit” with an eligible provider for a valid CMS-HCC diagnosis submission. Specific logistical details around data collection, regarding the specific definition of the medical record, which data is primary and which is ancillary and sources of information that may occur in a medical record that can be paper, electronic, or a combination continue to evolve.

As we have stated, as is found in the literature and as our interviews confirmed, physicians do not routinely code diagnoses with great focus and specificity. Health plans can offer physicians tools and maps to make it easier to offer the fully appropriate list of diagnoses on their patients. There are many diagnostic clues in historic claims and other information available for analysis by actuaries. Examples include information such as diagnoses that do not carry from one year to another as well as ones that correlate with various condition categories relevant to the CMS-HCC models. Alerting the physicians about diagnoses that have existed

for patients in the past and performing the alerts in a way that is consistent with the clinical workflow in the office may well enhance the ability of the physician in coding diagnoses accurately. Plans that can assist their providers effectively may well reap administrative and revenue benefits under the CMS-HCC payment system. Through the course of our interviews, we found specific instances of plans and providers coordinating activities and data to maximize the clinical and administrative utility of medical information sitting centrally at the plan and peripherally in the clinic. It is not yet clear how big a spillover into general clinical processes, this cooperation will foster.

## Summary

The implications of the CMS-HCC system are clear. There is an obvious role for actuaries in education in risk adjustment/modeling, compliance and in the utilization of collected information for analytic, financial and clinical advantage. Aligning incentives with diagnostic information opens many possibilities for improved relationships and communications between providers and payers with clinical, administrative and financial benefit. The collection of better diagnostic data creates opportunities related to quality improvement and performance management and will be a key step in positioning organizations to take advantage of future trends in health-care management such as increased clinical safety and longitudinal monitoring, more precise identification and stratification and payment for performance.

In the future, as plans and providers gain sophistication in coding and submission, CMS may well need to modify the weights and model it uses for risk-adjusted payments. Remember, the current CMS-HCC model was created through analysis of Medicare claims without any incentive for effective diagnosis submission. The introduction of incentives may very well modify the specificity and accuracy of the information from the current CMS-HCC model for risk-adjusted payment. It is still likely that HCCs and risk-adjusted reimbursement will increase equitability (but imperfectly), reduce the incentive for cherry picking, and bring greater congruence to payment and quality. Among the actuaries interviewed, there is comfort in the predictive ability of the HCC risk adjustment meth-

ods, which greatly exceed the explanatory power of demographic-only based models (by at least a factor of four). Thanks to the HCCs, CMS will have a significantly improved payment ability and patient centered clinical information capability. Once the U.S. health system reaches the tipping point for electronic clinical data collection through EMRs, EHRs and point-of-care clinical registries and decision support tools, CMS will have a greatly enhanced opportunity to fine tune its payment system. The timing should be ideal as the baby-boomer bulge hits the chronic disease years within the next one to two decades. ❏

## Footnotes

<sup>1</sup> MedPac, Medicare Advantage Program Payment System Sept 2006, p.2.

[http://www.medpac.gov/publications/other\\_reports/Sept06\\_MedPAC\\_Payment\\_Basics\\_MA.pdf](http://www.medpac.gov/publications/other_reports/Sept06_MedPAC_Payment_Basics_MA.pdf)

downloaded October 27, 2006, 09:28.

<sup>2</sup> Standard & Poor's Industry Report Card. U.S. Corporate Health-Care—Issuers Looking To Benefit From Aging Population Should Proceed With Caution. Oct.3, 2006.

<sup>3</sup> Office of the Actuary, Health Spending Projections for 2005 – 2015. Centers for Medicare & Medicaid Services, Mar 7, 2006.

<sup>4</sup> Ash A, Ellis RP, Pope GC, et al., Using Diagnoses to Describe Populations and Predict Costs. Health-Care Financing Review, Spring 2000; 21(3):7-28.

<sup>5</sup> Pope GC, Kautter J, Ellis RP, Ash AS et al. Risk Adjustment of Medicare Capitation Payments in the CMS-HCC Model. Health Care Financing Review, Summer 2004, 25(4):119 – 141.

<sup>6</sup> Ibid. pp. 121-122.

<sup>7</sup> Ibid. p. 130.

levels that are considerably lower than for most commercial health insurance products. In 2001, Medicare's cost for Part A was 2 percent of total spending and Part B was 1.7 percent. This does not include all costs that should be allocated to Medicare and Medicaid. In 2003, the cost of processing a claim was \$0.89 for Part A and \$0.67 for Part B—I have not seen these numbers used to illustrate the economy of scale that occurs in a so-called single payer system, but these are levels that a third party administrator or insurer would find difficult to achieve.

the price of each performed service is controlled. There is no specific direct control of the number of services performed by a medical professional, nor is there a specific limit to the aggregate amount Medicare will spend in a given year. Since OBRA '89, however, there has been a mechanism that attempts to link increases in future provider reimbursement to past utilization levels. Under Part A, since 1983, hospitals have been paid according to the Prospective Payment System (PPS); each inpatient stay is assigned one of roughly 500 Diagnostic Related Groupings (DRGs). This determines the amount the hospital is reimbursed for a particular admission, usually regardless of the length of stay. Prior to PPS, hospital reimbursement was charge-based. Behind the scenes, the mechanism of DRG payment may do more to control over-utilization than any other aspect of Medicare.

Under Part B, since 1989, the Resource Based Relative Value Scale (RBRVS) has determined the amount that professional medical providers receive for a specific CPT code, commensurate with the relative value of the medical procedure. Like PPS, RBRVS also replaced a charge-based approach. All beneficiaries have the same traditional Medicare A/B plan, across the entire United States, with the same benefits, deductibles and coinsurance. Providers, however, may be paid more or less for the same service, depending on the county in which they are located.

With OBRA '89, Medicare increased physician pay for evaluation and management services while decreasing pay for other CPT codes. At that time, as mentioned above, Medicare also established a formula to link future physician pay to the past increase in utilization level. This was instituted as a deterrent to over-utilization—the tendency to make it up on volume when unit cost increases are perceived to be low. Under the Balanced Budget Act of 1997, the former formulaic approach was dropped and replaced with the Sustainable Growth Rate system, which links increases to the increase in real GDP. The newer system also indicates that professional reimbursement decreases are in order, but the issue still proves perplexing today. Under pressure from providers, Congress overrode scheduled annual decreases in professional reimbursement in 2003, 2004, and 2005. Respective increases of 1.7 percent, 1.5 percent, and 1.5 percent were applied instead.

**The sustainability of Medicare is a complex, qualitative social problem. In the most recent Medicare Trustees' Report, it is noted that there will be significant problems with the long-term funding of Medicare's trust funds...**

The sustainability of Medicare is a complex, qualitative social problem. In the most recent Medicare Trustees Report, it is noted that there will be significant problems with the long-term funding of Medicare's trust funds, unless HI payroll taxes are substantially increased or the benefit is commensurately reduced. From a budget perspective, Medicare draws a large and increasing portion of general revenues from the federal budget. This is increasing not only as a percent of GDP, but also as a percent of government revenue. The issue of Medicare funding is complicated by the consideration of intergenerational equity and the issue of individual equity versus social adequacy. For the reader interested in learning more about the subject of Medicare's finances, Foster and Clemens authored an excellent article appearing in Vol. 27, No. 2 of the *Health Care Financing Review*.

### **Provider Reimbursement**

One salient detail of Medicare cost that is often overlooked is price control—Medicare establishes the unit cost of services. That is, the U.S. government determines the amount that medical providers will be reimbursed for each service performed under Medicare. It is a weaker form of price control than overall budgeting. As such, only

Also under Part B, as of August 2000, hospitals are paid prospectively by CMS for outpatient facility charges under the APC system—ambulatory payment classifications (APCs) are designated for specified levels of care. Prior to the introduction of APCs, Medicare outpatient hospital reimbursement was charge-based. In an Academy study released in 2000, Med Supplement carriers reported enormous trends in outpatient cost from 1995 to 1998, which resulted in much higher overall medical trends. Medical trends in total (across all types of service) reportedly ran 2.9 percent higher than it would have if outpatient had trended at the same rate as all else.

This underscores the fact that changes to one aspect of Medicare may affect another—the so-called health-care balloon effect. For example, DRGs saved the taxpayers a great deal on inpatient cost and forced hospitals to be more efficient in delivering inpatient care, but there was also a downside. As counterforce to tighter enforcement of increases in inpatient reimbursement, hospitals had a new incentive to get patients out of the hospital and into another setting, such as a skilled nursing facility or home health. This is essentially positive, because these alternate settings are lower cost, but some of the savings in inpatient care were absorbed by the dramatic cost increases Medicare experienced in skilled nursing facility care and home health, not to mention hospital outpatient. When DRGs were instituted for inpatient care in 1983, provider reimbursement for non-inpatient hospital services was still governed by the loose wilderness law of billed charges with a UCR maximum—significant cost increases thus resulted for those non-inpatient hospital settings and types of service.

CMS devotes a great deal of time and thought to any changes to Medicare, including change in provider payments. Over a decade of research preceded the introduction of PPS. Because of the enormous scale of the Medicare program, many financial professionals are involved in provider reimbursement. Their charge is a delicate balancing act—on the one hand, they must maintain access and quality; on the other, they must avoid waste and overpayment at the taxpayers' expense. Commercial health insurers have developed payment methods that are derivative of Medicare's approach (x percent of Medicare); they also often piggyback off of changes to Medicare

reimbursement, such as the change in relative value units (RVUs) that apply to professional services.

### Conclusion—Part 1:

From the start, the U.S. government wanted to keep Medicare at arm's length from the supervision of the practice of medicine. Medicare's regulatory authority has come a long way since its early days when it paid fee for service to providers who enjoyed relative autonomy. Pay for performance is the latest development to be recommended for Medicare. As the single largest payer of health-care in the United States, Medicare continues to have a profound influence on all aspects of health-care and health insurance. No other program, public or private, has had such far-reaching effect on the U.S. health-care system.

As Medicare evolved, some policy makers advocated that the government should involve the private health insurance sector more in the ongoing re-design of Medicare. Doing so, they argued, would allow Medicare to benefit from some of the aspects of medical management and cost containment that managed care organizations had already adopted. This could help improve quality and control cost. In 1982, TEFRA made it desirable for HMOs to contract with Medicare. This became Medicare Risk, which evolved into Medicare + Choice under the Balanced Budget Act of 1997. Under the MMA (Medicare Modernization Act) of 2003, M+C was transformed in the Medicare Advantage program as we know it today. In addition, seniors were given the option for a new prescription drug benefit. The second installment of this two-part series will focus on the Medicare Advantage program, called Medicare Part C, and the new pharmacy benefit, Medicare Part D. ❧

*Author's note: Some of the ideas contained in this article were included earlier in a presentation about the MMA at the SOA Annual Health Meeting held in Hollywood, Fla. in June 2006. Any opinions expressed in this article are solely those of the author and not those of his employer. The author wishes to thank David Bahn for his comments.*

# Health Section Announcements

## 2007 Society of Actuaries Spring Meeting

Mark your calendars and plan to attend the 2007 SOA Spring meeting, which will be held in Seattle, Wa. on June 13-15, at the Sheraton Seattle Hotel. The meeting is uniquely designed to offer one-of-a-kind educational programs aimed at energizing health industry professionals and helping them grow their positions and their companies via networking and important, specialized learning opportunities. More information will be available soon at <http://healthspringmeeting.soa.org>.

## Got a Research Idea?

The SOA Health Section Research Team is seeking new research ideas or proposals on a health-related topic for potential funding. The team has a dedicated annual budget to fund research projects that benefit health actuaries. You can submit a proposal or idea at any time through its open request for proposals (see link below). Proposals are chosen among those submitted for funding based on their relevance to health actuaries and available budget. Examples of prior studies funded include the 2002 Comparison of Risk Adjusters Study (a follow-up of which is currently underway) and the Impact of Medicare Part D on Drug Costs study completed earlier this year. Here's an opportunity for you to advance the profession and potentially uncover new knowledge!

For more details on how to submit a proposal and the selection process, please see the following link: <http://www.soa.org/ccm/content/areas-of-practice/health/research/request-for-proposals—health-projects/>. If you have any questions, please contact Steven Siegel, SOA research actuary, at [ssiegel@soa.org](mailto:ssiegel@soa.org).

## DMAA Awards NAAJ Article the Prize for Best Article of 2006

The article, "A Comparative Analysis of Chronic and Non-Chronic Insured Commercial Member Cost Trend," co-authored by Robert Bachler, Ian Duncan (Health Section Council member), and Iver Juster, was one of three articles awarded the 2006 Leadership Awards for Best Article of 2006. The award was presented at the Disease Management Leadership Forum held on December 3-5.

Ian's article appears in the October 2006 issue of the *North American Actuarial Journal (NAAJ)*.

## 2007 DI LTC Insurers Forum— September 26-28

The Society of Actuaries is pleased to be partnering with LOMA and LIMRA to present the 2007 DI LTC Insurers Forum from *September 26-28, 2007* in San Antonio, TX. This conference is designed to provide a substantive educational program for those already working in the DI and LTC arenas.

## Refocus 2007

Planning continues for the inaugural Reinsurance Section seminar titled "REFOCUS 2007." The event is scheduled for March 4-7, 2007 at Hyatt Lake, Las Vegas, Nevada. The meeting will deal with U.S. and global life and health insurance and reinsurance topics of strategic importance. A number of presentations will address health reinsurance market issues, such as the following:

- Global Demographics and its Impact on Product Placement
- The Reinsurer Role in Long Term Care (LTC)
- U.S. Medical Market Update
- Life and Health Underwriting and Claims Adjudication in a Global Environment
- LTD Market—The Market Today: Is it Disabled or Recovering?
- General Session: The Impact of Emerging Medical Advancements on the Future of Life, Health, and Annuity Insurance/Reinsurance Industry

The symposium is targeted for senior personnel at both ceding companies and reinsurers with various functional roles (claims, underwriting, legal, actuarial, executive). For additional details, visit the conference Web site at <http://www.refocusconference.com>. 📧