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Letter from the Editor

By Valerie Nelson

It's been December since the last issue of *Health Watch* and this issue has much to share with our readers. I hope that you find this issue as interesting as I do. As always, I want to thank all of our authors who take the time to share some valuable and new information with the broader actuarial community.

A few highlights about this issue:

- Two articles feature new ways of providers interacting with patients. The first, and our cover article, is written by Gayle Brekke and focuses on a direct primary care model. The second, written by Richard Gengler, Irving Steel and Stevan Hobfall, focuses on mental health treatment.
- Other new and interesting content includes Chris Bach's article on innovations in the Medicaid market; Daniel Perlman and Doug Norris' article on Own Risk and Solvency Assessment (ORSA); Daniel Pribe's article on population health; Greg Fann's article on Section 1332 waivers; and Joe Slater's article on self-funding options for small employers.
- There are two articles focusing on activities within the Society of Actuaries (SOA) Health Section. The first is a literature review written by the Behavioral Finance subgroup. The second shares with readers activity that is happening between the Health Section members and the Centers for Disease Control and Prevention (CDC) on preventive care issues.

- And a reader writes in! Dave Ogden has provided feedback on the December 2015 *Health Watch* article, "Examining the Evidence: Blood, Guts, ASOPs and Delivery System Reform."

Happy spring! ■

5 NUMBERS

1. Admission for neonatal intensive care unit (NICU) increased 64 to 78 per 1,000 live births from 2008 to 2012 when over half the NICU admissions were for normal weight babies.
2. The three largest causes of U.S. injury death responsible for more than 100,000 deaths per year are motor vehicle traffic crashes, firearm-related injuries and drug poisonings.
3. Range of the cost of knee replacement in Miami from private payers: \$16,300 to \$30,100.
4. Utilization at retail clinics for low-acuity conditions: 58 percent new care and 42 percent substitution.
5. Number of Carbapenem-resistant Enterobacteriaceae (CRE) superbug cases in the United States in 2015: 11.

¹ <http://archpedi.jamanetwork.com/article.aspx?articleid=2381545>

² <http://jama.jamanetwork.com/article.aspx?articleid=2488300>

³ http://www.nytimes.com/interactive/2015/12/15/upshot/the-best-places-for-better-cheaper-health-care-arent-what-experts-thought.html?_r=0

⁴ <http://content.healthaffairs.org/gca?allch=&submit=Go&gca=healthaff%3B35%2F3%2F449>

⁵ http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6447a3.htm?s_cid=mm6447a3_e



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Chairperson's Corner

By Elaine Corrough

With all of its problem-solving, principled reasoning and numerical analysis, health actuarial work is both challenging and enjoyable. Much of our collective work focuses on evaluating efficiency in the health care system. Over the past few years I have had the privilege of working with several health systems in the western half of the United States on efficiency of care and risk-based contracting. As a Society of Actuaries (SOA) volunteer, I talk regularly with seasoned health actuaries about provider efficiency. I am diligent with continuing education, and try (successfully or not) to keep up with current events. But listening to other actuaries, I have found that we learn different but equally valuable lessons about efficiency from our personal experiences in the health care system. It's perhaps analogous to the difference between studying *Moneyball* and standing in the batter's box, waiting for the first pitch.



We learn valuable lessons about efficiency from our personal experiences in the health care system.

In fall 2015, I stepped into the batter's box and had my own experience with health care inefficiency. Tragicomic details aside, over a four-month period, I had three conflicting diagnoses regarding a serious illness, redundant lab and radiology tests, and finally, one unnecessary surgery requiring general anesthesia. All of this arose from a single human error with one initial report filed incorrectly by a laboratory technician.

In a spreadsheet model, most of the lab tests and the surgery would be considered inefficiencies. In reality, I don't see any other way we could have handled care after that initial human error. What this experience emphasized for me was the dramatic difference between the inefficiencies we routinely analyze in our work and the actual opportunity that reflects human error, patients' expectations, and the desire to err on the side of caution when it comes to our health and the health of our families. The human factor—human error, patient expectations, strength of social support—surely contributes to outcomes, potentially even overriding the effect of evidence-based medicine and efficient care protocols in some cases. Let us not forget that our work as health actuaries ultimately affects—and should reflect—not just insurers, payers and health care systems, but also patients and their families.

My comments are by no means unique or original, and other actuaries are making great strides in analyzing human behaviors in health care. Chris Coulter leads our section's subgroup for Behavioral Finance, bringing in expertise from other professions as well as from fellow actuaries. If this subject area interests you, I strongly encourage you to sign up for this subgroup.

With the onset of spring, our attention turns to the 2016 SOA Health Meeting in Philadelphia, June 15–17. For our 2016 flagship event, I'm looking forward to exciting keynote speakers, engaging sessions, and, perhaps most important, the opportunity to talk with fellow health actuaries and catch up with old friends. I hope to see you there!

Any mention of the SOA Health Meeting brings to mind the incredible effort of our volunteers who plan and execute this event. Our thanks go to Brian Pauley, our Health Meeting chair, as well as Sarah Osborne and Jenny Gerstorff, our Health Meeting vice chairs. They, along with dozens of session coordinators, presenters and SOA staff members, have been preparing diligently for a successful event. Thank you all!

If you haven't already, check out the special seminar immediately preceding the 2016 SOA Health Meeting: Best Actuarial Practices in Health Studies Seminar. We launched this seminar last year in Atlanta to positive reviews, as attendees gained experience and confidence in communicating the results of actuarial work through a series of intensive sessions focused on specific aspects of actuarial reports. Data visualization, report construction and practical writing advice are covered, and attendees will have the opportunity to critique and revise an actuarial report using what they've learned.

The spring meeting is just one of the volunteer-intensive efforts in our annual plan. One of the priorities for the Health Section Council is to enhance and add some structure to how we communicate with section members on volunteering opportunities. Our initiatives include welcome letters for new section members

and aspiring volunteers; collaboration on the SOA volunteer database development; and more guidance for our sub-group leaders. I would especially like to highlight the efforts of council members JoAnn Bogolin, Julia Lambert and Marilyn McGaffin, who have led these initiatives. Their efforts are helping to reinforce our volunteer infrastructure so that it is easier for section members to seek, find and participate in volunteer activities.

Thanks, as always, to our volunteers and staff partners. See you in Philly! ■



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Up Front with the SOA Staff Fellow

By Joe Wurzburger

One of the most enjoyable aspects of my job is the occasional opportunity to see a small idea turn into an amazing event; the proverbial spark that catches fire. One such opportunity presented itself last year.

As the 2015 Society of Actuaries (SOA) Health Meeting was being planned, an idea was pitched that health actuaries could use a forum in which to learn how to better construct and communicate their reports in a way that can truly get noticed. As this idea was fleshed out, it became apparent that this was more than just a 90-minute breakout session. There was a lot of opportunity to do something truly impactful. And thus the first-ever Best Actuarial Practices in Health Studies Seminar was born.

As the event was planned, many questions were asked, and the answers were exciting.

Wouldn't it be great to find someone who had previously been a "nobody" and presented their data in such a compelling way as to become a national sensation? This question led to Charles Gaba being a presenter. He took a simple idea—tracking enrollment in plans on the ACA exchange—and soon found himself being cited by everyone from CNN to the White House.

Data visualization is critical to getting noticed—shouldn't we try to get someone to talk about that? Next thing we knew, Eric Barrette from the Health Care Cost Institute (HCCI) was on the docket to talk about how to create successful reports that refine and summarize data in a way that is helpful to the general public without losing the most significant parts of the message. And a hot-shot Coursera data visualization maestro, Rahul Basole, splashed up stunning examples of what really drives a data point home.

Data science is all the rage—don't we need a data scientist, too? Why, yes, yes we do. Brandon Barber filled that role, as he was there to speak about data methods from the perspective of a data scientist.

This is all great ... but an actual hands-on case study would really help to tie it all together. It sure would. So the afternoon of the second day was an engaging and lively case study that participants worked on in groups.



The feedback from the event was stellar, and it was clear that people felt inspired.

Why am I sharing this with you now? I'm glad you asked.

The second-ever Best Actuarial Practices in Health Studies Seminar is going to take place this June in Philadelphia at the 2016 SOA Health Meeting. Believe it or not, early indications are that the content will be even better than last year. An impressive lineup of presenters is once again being planned, and the case study promises to be even more engaging than last year. Sessions from last year are being evaluated and, where appropriate, improved. For example, one of the sessions that was already a huge success last year is expanding to include the concept of how to incorporate humor into your business communications correctly. (Not that actuaries need any help with humor.)

If all of this wasn't enough, there will once again be a networking reception in the evening. If last year is any indication, there will be plenty of good conversation there (and opportunities to incorporate humor into your communications).

I, for one, will not miss this event. I hope to see you there with your best actuarial jokes in hand. ■



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Direct Primary Care: Good for What Ails Us

By Gayle Brekke

Direct primary care (DPC) is a newer primary care practice model that early evidence indicates holds promise for improving some of our most daunting problems in health care today—problems such as poor care coordination, chronic conditions that are not well-controlled, over-utilization of high-intensity settings like emergency departments, unaffordable insurance premiums, health care spending growing at a faster pace than the economy as a whole, and high levels of frustration and dissatisfaction among patients and doctors.

DIRECT PRIMARY CARE—WHAT IT IS AND HOW IT WORKS

DPC is a newer incarnation of concierge medicine or retainer medicine in which patients pay a modest monthly membership fee in exchange for unlimited primary care. There are many practice models emerging; I will use the term “direct primary care” to refer to those practices that do not take insurance. Hybrid models are also common; these are practices that use a traditional insurance-based model for some patients and a DPC model for others. Sometimes a hybrid model is used to transition from an existing traditional practice to a DPC practice over time.

The median monthly DPC fee for an adult is about \$70¹ and the *DPC Journal* reports that 68 percent of fees are between \$25 and \$85 per month.² Monthly per child fees are modest, often \$10 to \$20 per child with a cap on the total monthly fee for a family. Rates are independent of pre-existing conditions and health status. There are typically no copays, deductibles or coinsurance for most or all services provided by the physician. Care management and care coordination are included. Patients receive 24/7 access to the physician for office visits, emails and phone calls, and many DPC providers include technology visits such as texts, as well as visits at other locations as needed. DPC practices typically promise same-day or next-day appointments of 30 to 60 minutes. As an example of enhanced access, consider the following story. DPC physician Dr. Josh Umbehr of AtlasMD in Wichita, Kansas, tells of a patient who cut himself carving the family’s Thanksgiving turkey. The man wasn’t sure whether he needed stitches so he texted Dr. Josh a picture of his hand. Sure enough, he needed stitches. The patient met Dr. Josh

Some DPC providers are ... successfully delivering primary care to employees of all-sized employers, resulting in savings of 15 to 30 percent on employee health benefit costs.

at the DPC clinic. Dr. Josh sewed him up for no charge and got a piece of pumpkin pie for his trouble. One thing that’s interesting about this story is that it’s typical of the sorts of interactions we see in other areas of our lives but atypical of the interactions we see in health care. For one thing, this is a customer-centered transaction. With no third party in the middle, patient and doctor are free to interact in a way that works well for both parties. And in the process, money and time were saved by avoiding a trip to the emergency department.

DPC patients receive many preventive and primary care services at no additional charge beyond the monthly membership fee; common low-cost ancillary services and supplies are provided at no additional charge. This often includes routine office testing such as electrocardiograms, some medications, on-site lab testing and various procedures as well as digital x-rays. Higher-cost items such as prescription medications and durable medical equipment are often provided at cost or for a small mark-up above cost.³ In addition, many DPC providers partner with local imaging centers and labs to provide high-quality services at a reduced price if the patient pays cash at the time of service. For example, Dr. Brian Forrest of Access Healthcare has obtained prostate cancer tests for \$5 from the same lab that would charge a Medicare patient at least \$175; \$80 for mammograms instead of \$350; and colonoscopies for \$400 when the going rate is \$2,000.⁴

Another cost-saving measure that many DPC providers offer (subject to state regulations) is to dispense prescription medications to their patients at wholesale cost. About a dozen states allow this without restriction. It is not unusual for DPC providers to shop around for lower-cost pharmacies so that their patients get even more bang for their health care dollar. With insurance removed from the relationship, the focus is on the service, convenience and value that the DPC provider can offer his or her customer patients.

DPC is an effective way to deliver primary care for almost every segment of the population. Some DPC providers are expanding beyond the individual market and are successfully delivering primary care to employees of all-sized employers, resulting in savings of 15 to 30 percent on employee health

Just as it doesn't make sense to pay for oil changes with auto insurance or lawn mowing with homeowners insurance, it doesn't make sense to pay for primary care with medical insurance.

benefit costs.^{5,6,7} Employers pay the DPC membership fees as an employee benefit.

DPC providers are also embracing Medicare and Medicaid populations. For example, the large DPC practice Qliance recently enrolled 15,000 patients via a Medicaid managed care contract, where Medicaid simply pays the membership fee on behalf of the patients as part of a shared savings program. Dr. Garrison Bliss of Qliance estimates that Washington state will save between 15 and 20 percent on these beneficiaries, compared to what traditional Medicaid would have spent.⁸ Another 5,000 patients recently signed up with Qliance via the Washington state health insurance exchange.⁹ Iora Health, a DPC practice that contracts with unions and employers, a year ago launched clinics in Washington and Arizona catering to Medicare Advantage patients, and they're setting up similar clinics in Colorado and Massachusetts.¹⁰ Qliance and Iora Health are just two examples of innovative DPC practices that are expanding and finding new ways to serve all sorts of patients, including those with Medicare or Medicaid.

The Affordable Care Act (ACA) allows DPC to count as ACA-compliant insurance as long as it is bundled with a "wrap-around" catastrophic medical policy. Many patients use DPC in conjunction with a high-deductible health plan, and insurance carriers are starting to develop catastrophic plans specifically designed to complement DPC. At this time, membership fees paid to DPC practices are not recognized by the IRS as health savings account (HSA) expenses, and thus they are not counted as tax deductions the way that other health expenses are. Legislative efforts are underway to change this. In addition, efforts are underway to clarify at the state level that DPC practices are engaged in the practice of care, rather than insurance. In states where such legislation has been passed, the state's department of insurance cannot treat DPC physicians as insurers subject to its regulatory scheme. As of July 2015, 13 states have DPC laws on the books.¹¹

OUTCOMES AND SAVINGS

While the typical primary care physician practicing in a traditional insurance-based way maintains a patient panel of

around 2,000 to 2,500 or more, the typical established DPC physician's panel is about 600 patients. The significantly smaller panel size allows the DPC provider to be more available to her patients and to provide more comprehensive and coordinated care, which translates to improved outcomes for the patient and reduced spending for the system as a whole. A *British Medical Journal* study of Qliance found that DPC patients experienced significantly better outcomes than similar patients who received primary care in the traditional way.¹² Qliance DPC patients experienced

- 35 percent fewer hospitalizations
- 65 percent fewer emergency department visits
- 66 percent fewer specialist visits
- 82 percent fewer surgeries

Savings can be considerable. In a study of results of MD Value in Prevention, the decrease in preventable hospital use (admissions and re-admissions) alone saved \$2,551 per patient, which is more than the cost of the DPC membership fee.¹³ The savings on hospital use were achieved through 56 percent fewer non-elective admissions and 49 percent fewer avoidable admissions compared with similar patients who received primary care the traditional way. DPC patients were readmitted 91 to 97 percent less frequently for acute myocardial infarction, congestive heart failure and pneumonia.

An assessment of Qliance patient experiences placed Qliance in the 95th percentile in overall patient satisfaction, well above the 90th percentile national average.¹⁴ Since patients pay month to month, DPC physicians know that they must provide value to patients or they will leave.

WHAT ABOUT THE PHYSICIANS?

In addition to the significant positive impacts that it has on patient outcomes and spending, DPC also can dramatically improve the experience of physicians. Administrative burden is causing significant stress and burnout for physicians in the United States in general, and for primary care physicians and internists in particular. In a 2011 survey, 87 percent of physicians named the leading cause of work-related stress and burnout as paperwork and administration, with 63 percent indicating that stress is increasing.¹⁵ Internists and general/family practitioners spend an average of more than nine hours per week on administrative tasks according to the 2008 Health Tracking Physician Survey; this represents a 23 percent increase in the administrative portion of the physician's work week since 1995.¹⁶ Physicians who spend more time on administration are markedly less satisfied with their careers. In a 2014 survey, 68 percent of family physicians and 73 percent of general internists reported that they would not choose the same specialty if they could start their careers anew.¹⁷

In the case of primary care physicians practicing in the traditional way, a significant cause of stress and career dissatisfaction is that they have so little time to spend with patients. Some doctors report that they have as little as five to eight minutes to spend with each patient. Their panel sizes are so large because reimbursements continue to decline and administrative requirements continue to increase. The only lever they have to keep their revenues up and keep their business model sustainable is to see more patients each day. They don't have time for extended conversations with patients to effectively manage chronic conditions, medications and lifestyle factors; they don't get reimbursed for extended conversations. Adding to the burden is the worry over the financial sustainability of the practice due to the number of administrative staff that is needed to handle paperwork and other tasks required for reimbursement from insurance companies and Medicare. DPC practices claim to reduce overhead by more than 40 percent by eliminating administrative staff resources associated with third-party billing, resulting in lower price points for patients.¹⁸

It's too soon to tell what the impact of DPC will be on the shortage of primary care physicians. On the one hand, DPC physicians serve roughly one-fourth to one-third as many patients as traditionally practicing primary care physicians serve. On its face, this seems to suggest that DPC will exacerbate physician shortages. But on the other hand, as DPC is a much more satisfying way to practice medicine, frustrated physicians are switching to DPC rather than retiring early or leaving the profession altogether. And as DPC continues to grow, more medical students will hear about it and perhaps some who otherwise would have chosen a different specialty will decide to go into primary care.

THE ROLE OF INSURANCE

If one of the key factors contributing to the success of DPC is that DPC practices don't take insurance, what then is the proper role of insurance in the health care system? In general, insurance is an important financial tool without which individuals and businesses would have a great deal of difficulty surviving. How many of us could take on the risk of our house burning down if homeowners insurance or a similar mechanism were not available? A minuscule number of us, I'm sure. Insurance works well for insurable events, very large risks that are unpredictable and very unlikely to befall a given individual. None of these characteristics apply to primary care, and so I believe it's wise to question whether the insurance mechanism should be employed to pay for primary care. Primary care is inexpen-

sive and predictable. Just as it doesn't make sense to pay for oil changes with auto insurance or lawn mowing with homeowners insurance, it doesn't make sense to pay for primary care with medical insurance. The most efficient way to pay for something that everyone ought to be using is directly. Paying for primary care with insurance inflates the price without getting commensurate value in return. If the price of an oil change is \$40, you would not pay \$55 so that a third party can process the claim for you rather than just paying the \$40 directly yourself. Specialty care and hospitalization should continue to be covered by insurance, as these are expenses that everyone would prefer to avoid. By using the insurance mechanism for only those events that are insurable, we stand to save a great deal of money and bend the cost curve. While more research needs to be done in this area, consider that patients can realize savings of 35 percent or more for comprehensive care when DPC is combined with low-cost catastrophic "wraparound" insurance.^{19,20,21} If early DPC results are indicative of future claim savings due to lower utilization of specialists, hospitals and emergency departments, then we can expect these lower claims costs to be reflected in the "wraparound" insurance premiums.

CONCLUSIONS

Early results of DPC indicate that it promotes care coordination, improves quality and outcomes, and reduces spending. By working closely with the patient in a relationship characterized by trust and access, the DPC physician is often able to identify concerns early and prevent or reduce the severity of subsequent problems. Unlimited availability prevents urgent care visits, emergency department visits, and hospital admissions and re-admissions. Patients get better health for a lower cost. In addition, DPC seems to be a more satisfying way to provide primary care, for both the patient and the physician. As more medical students choose primary care and as physicians switch to DPC instead of leaving the profession or retiring early due to frustration and burnout, we may slow the current trajectory of primary care physician shortages.

DPC is good medicine for what is ailing in our health care system. ■



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Continued on page 10

ENDNOTES

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Knowledge on the go

SOA Podcasts

The SOA releases free podcasts each month aimed at helping busy professionals like you find the time to gain insights and perspectives from fellow members. Recent podcasts explored topics ranging from how nonqualified annuities are taxed to how to be an ethical leader.

SOA.org/Podcast

Medicaid Innovation: The Need for Actuaries in the Medicaid Program

By Chris Bach

You may be asking yourself, “I don’t work on Medicaid, why should I care what’s going on with it?” For me, it’s personal. Years ago I would never have dreamed I would willingly tell people this, but at one point in my life, I desperately needed Medicaid. As the single mom of a young baby who was denied insurance coverage because of his “pre-existing” condition of recurrent ear infections, I was barely getting by financially, working full time, and trying to put myself through school. I could not afford the unexpected, but all too recurrent, medical or pharmacy expenses. I applied for and received Medicaid coverage for my child, which, thankfully, covered the expenses. However, it also came with a public stigma, since it was linked to the welfare program, and offered access only to the limited number of providers who were willing to accept Medicaid patients.

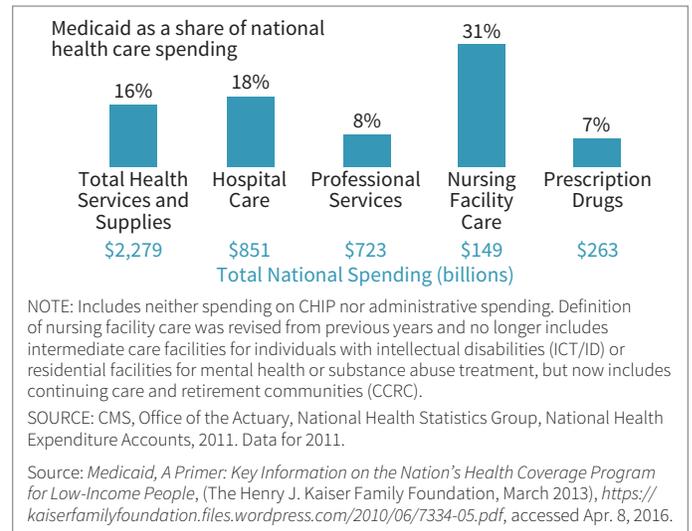
Fast forward 25 or so years to the Medicaid program today. The state-managed health care program for low-income people has been “delinked” from welfare. It has led changes in health care coverage in many ways, including the broad acceptance and use of managed care programs and the beginning of payment reform. There is better public perception of the need for the program and the needs of its recipients, as well as expanded provider access for Medicaid recipients.

Medicaid has come a long way. However, there are still a significant number of challenges in the program, several of which actuaries are highly qualified to address.

First, here is why we all SHOULD care about Medicaid:

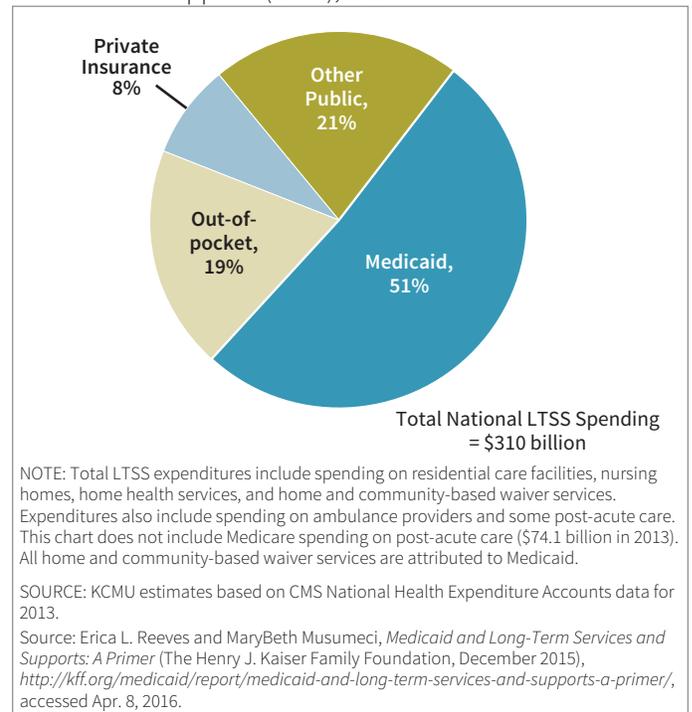
- Medicaid covers an estimated 68 million Americans, more than 1 in every 5.¹ Whether you know it or not, someone you know or love probably receives some type of benefit from Medicaid.
- Medicaid is the primary payer of public health care in the United States, and in 2011 covered 16 percent of all health care services and supplies (see Figure 1).
- Medicaid is the primary payer for long-term services and supports (LTSS), which include nursing home care and other long-term care, covering 51 percent of costs in 2013 (see Figure 2).

Figure 1
Medicaid’s Role in Financing Health Care



- Medicaid currently covers about 45 percent of all births in the United States and that number continues to grow.²
- Nearly 4 of every 10 children in the United States were covered by Medicaid in 2014.³
- More than 20 percent of all Medicare beneficiaries are also eligible for Medicaid (dual eligible).⁴

Figure 2
Medicaid Is the Primary Payer for Long-Term Services and Supports (LTSS), 2013



Today, the Medicaid program—which is funded by both the state and federal government—is the second-largest expenditure by states on a nationwide basis (behind only elementary and secondary education), and the third-largest federal domestic program (behind Social Security and Medicare).⁵ In short, Medicaid impacts all of us in some way.

MEDICAID PROGRAM HISTORY AND BACKGROUND

Medicaid was established in 1965 by Title XIX of the Social Security Act, the same federal legislation that established Medicare. Medicaid, which is jointly funded by the federal government and each state government, provides health and long-term care coverage for low-income people. Each state must meet a minimum set of requirements, or request a waiver to alter specific requirements, in order to receive federal funding. States are allowed to offer more than the federal benefits, and many choose to do so.

Over the past 50 years, Medicaid has changed to meet the needs of the people it is intended to protect. Various program expansions and additions have been implemented—most recently, many states have expanded their programs as part of the Affordable Care Act—and assorted waiver programs have been implemented. Figure 3 demonstrates the most significant changes since the beginning of the program.

Many times, the Medicaid program changes or initiatives were the first of their kind in the health care industry. Medicaid was an early adopter of electronic claims processing and managed care programs, and has made quality of care a key focus in the past few years. These changes appear to have paid off; Medicaid has experienced the lowest cumulative growth in per capita health spending of all payers over the past several years (see Figure 4).

Figure 3
Medicaid Has Evolved Over Time to Meet Changing Needs

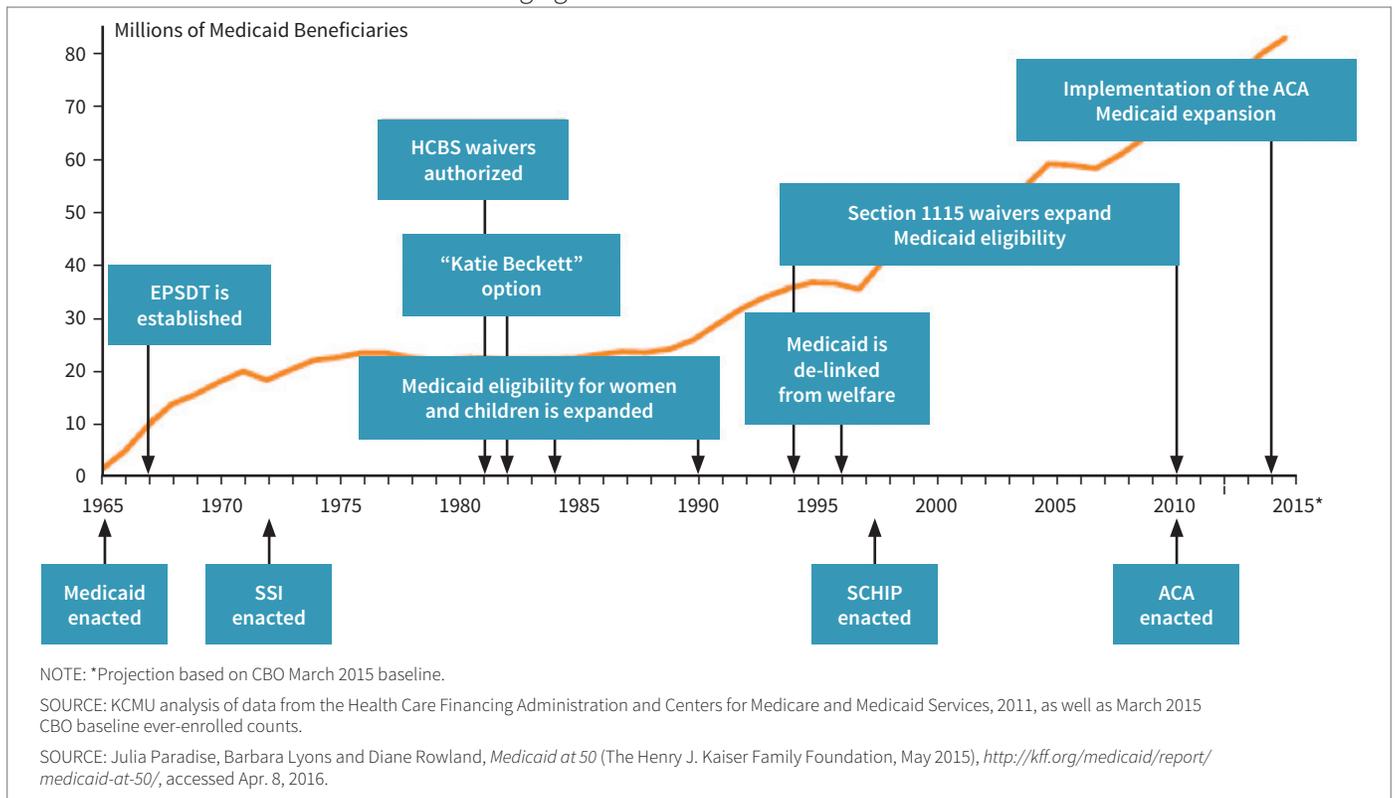
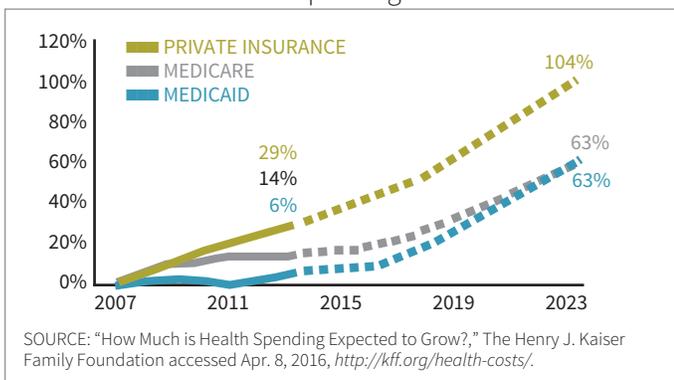


Figure 4
Cumulative Growth in per Capita
Public and Private Health Spending



Given its important role in the U.S. health care system over the past 50 years, it is worth considering what is in store for the future of the program—and how actuaries can help lead the way.

WHAT LIES AHEAD?

The Medicaid program is experiencing a period of growth, innovation and change. Key areas of focus being considered by states include:

- Expanding use of data analytics to drive improvements.
- Improving the quality of care and linking provider reimbursement to the quality of care and health outcomes.
- Moderating increases in cost through payment reform and better delivery systems.
- Providing more efficient care through integration of services and/or programs such as integrating behavioral and physical health care services or integrating Medicare and Medicaid services for beneficiaries eligible for both programs (dual eligible).
- Collaborating across state agencies to consider the impact of social determinants on health care expenses and outcomes and determine which social support programs will drive better health outcomes and/or lower costs.
- Integrating more types of services, such as LTSS, prescription drugs and behavioral health, into existing managed care programs.
- Integrating more populations, such as prisoners and homeless individuals.

Based on the fall 2015 National Association of Medicaid Directors (NAMD) Fourth Annual Medicaid Operations Survey, more than half of all Medicaid directors spent at least half of their time focusing on major payment, delivery system or programmatic reforms in 2015. Of those reform areas, Medicaid directors indicated that delivery system and payment reform initiatives are their top focus.⁶

WHAT IS DELIVERY SYSTEM AND PAYMENT REFORM?

For many years, the Medicaid program paid providers on a fee-for-service (FFS) basis, without regard to quality or outcomes. Over the past 20 years, many states have moved a significant portion of their Medicaid program to managed care, paying managed care organizations (MCOs) to provide all or some of the services for an agreed-upon price. The MCOs then paid providers at contracted rates. This could be considered the first version of payment reform, with the MCOs managing the provider reimbursement rates. Many MCOs are now moving to more risk-based arrangements with providers; a step away from a “pay for volume” approach toward a “pay for performance” approach, reducing or sometimes completely removing the providers’ incentive to increase revenue by increasing the volume of services that is inherent in FFS programs.

Many states have recently been moving beyond managed care through the use of delivery system and payment reform initiatives. While there is an underlying assumption that this reform movement will save money in the long run, states have many other purposes in implementing the new programs, including improving beneficiary access to care, improving the quality of care, and improving beneficiary outcomes.

Recent Medicaid delivery system and payment reform initiatives states are considering include Delivery System Reform Incentive Payment (DSRIP) program waivers, accountable care organizations (ACOs), patient-centered medical homes (PCMHs) and health homes (HHs). An overview of each of these is provided here.

- **DSRIP program waivers.** DSRIP waivers are part of the Section 1115 demonstration waiver programs available to states upon approval by the Centers for Medicare and Medicaid Services (CMS). Under a DSRIP waiver, the states develop and implement initiatives that are expected to reduce costs over time. The key component of DSRIP waivers is that payments to providers are tied to meeting specific performance metrics.
- **ACOs.** In general, an ACO is an organization formed by a group of health care providers who are willing to take financial risk and agree to be responsible for the health care delivery and outcomes for a defined population. The ACO is accountable for the quality and cost of care for a defined set of services for their population. If the ACO meets pre-established quality performance standards and achieves savings relative to a pre-determined benchmark, it will share a portion of the savings with the state.
- **PCMHs.** PCMHs are physician-led teams of providers that are responsible for all of the patient’s ongoing care. PCMH payments are designed to recognize the added value these

services provide to the patient and are paid either by the state directly or through MCO contracts, often through per-member-per-month (PMPM) fees in addition to regular FFS payments.

- **HH program.** HHs are patient-centered systems of care for individuals with multiple chronic conditions. They are designed to improve the patient’s quality of care and health outcomes by managing and coordinating a wide range of services including physical health services, behavioral health services, LTSS and social service supports. States may design and implement separate HH programs targeting different populations.

These initiatives are just a few of the many new and emerging innovations in Medicaid reform. The design of these programs is continually evolving and improving as emerging experience on the programs and program metrics become available. For further information on Medicaid delivery system and payment reform, visit the Kaiser Family Foundation website at <http://kff.org/medicaid/> or the Medicaid and CHIP Payment and Access Commission (MACPAC) at <https://www.macpac.gov/>.

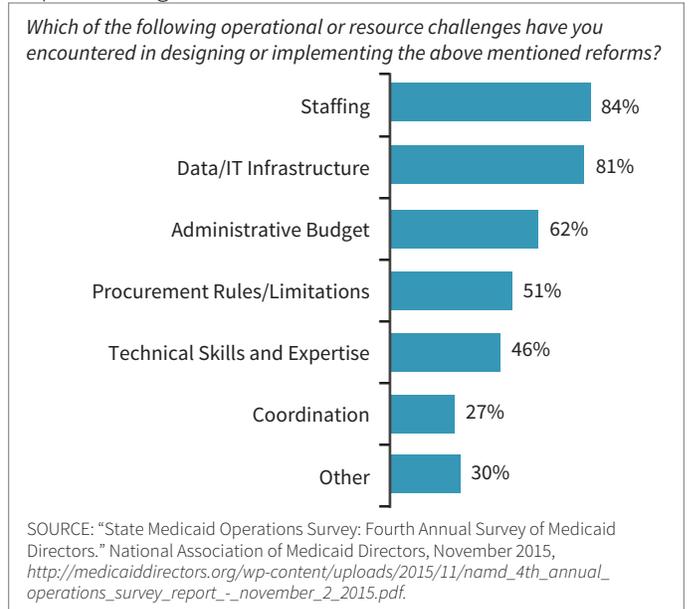
WHAT CAN ACTUARIES DO?

I can honestly say that the Medicaid program helped me get where I am today. Helping vulnerable populations, especially Medicaid populations, has a special place in my heart due, in large part, to my personal experience. As an actuary, I believe we can play an important role in helping position Medicaid for the future.

The movement toward the new Medicaid initiatives has created the need for extensive data analytics resources. In fact, 45 percent or more of the NAMD survey respondents indicated that staffing resources, data/IT needs, and technical skills and expertise are current challenges in designing or implementing the reform initiatives (see Figure 5).

As actuaries we can proactively advocate the significant value our profession can bring to the Medicaid program to help drive change and innovation.

Figure 5
A Wide Range of Barriers Exists to Implementing Medicaid Reforms



How can we, as actuaries, get involved and impact the program in a positive way? Following are some examples of more traditional ways actuaries have worked and can continue to work with states or MCOs on Medicaid issues:

- Establish, analyze or certify managed care capitation rates.
- Develop or analyze risk adjustment programs and/or risk settlements.
- Develop or analyze provider fee schedules and assist in provider contracting.
- Develop or analyze actuarial assumptions in projecting managed care expenses such as trends, incurred but not reported (IBNR) factors, administrative expenses or margin levels.
- Perform feasibility analyses on the impact of moving certain populations or services to a managed care setting.
- Assist in developing and performing impact analyses on the implementation of waiver programs.

There are also innovative and more nontraditional ways actuaries can and do work with states, MCOs, ACOs, advocacy groups, CMS or other Medicaid stakeholders to meet the specific needs of new initiatives in Medicaid. Some examples include:

- Analyze the impact of reform efforts on the sustainability of the program.
- Develop and analyze new value- and quality-based payment models that can be used to drive innovation and improved health outcomes.

- Develop and analyze special needs programs for specific populations or services such as programs to address specific chronic conditions or programs that target certain sectors of Medicaid beneficiaries who may be at high risk.
- Analyze the impact that various social determinants have on health care and consider models that address those social issues.
- Identify areas of unreimbursed care—for example, identify providers with special needs patients who require more time and attention than the average Medicaid patient—and develop models that address reimbursing providers appropriately for those value-added services.

This list may, and likely will, grow to include many other ideas and is only limited by our view of the services actuaries can provide. At the 2015 NAMD Annual Conference, the need for data analytics and strategies to reduce costs while improving outcomes was mentioned in nearly every session I attended. The skill sets and expertise we have developed and strengthened during our actuarial careers place us in the perfect position to meet those needs.

As actuaries we can proactively advocate the significant value our profession can bring to the Medicaid program to help drive change and innovation. ■



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ENDNOTES

- ¹ <http://kff.org/health-reform/issue-brief/medicaid-moving-forward/>
- ² <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-care/maternal-and-infant-health-care-quality.html>
- ³ <http://kff.org/other/state-indicator/children-0-18/>
- ⁴ *Supra* note 1.
- ⁵ <http://kff.org/other/state-indicator/distribution-of-general-fund-spending/>
- ⁶ <http://medicaiddirectors.org/publications/4th-annual-medicaid-operations-survey-highlights-program-challenges-priorities-for-2016/>



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Mental Health Enables Wealth

By Richard Gengler, Irving Steel and Stevan Hobfoll

The need for mental health care is a well-documented and growing problem within the United States. According to the National Institute of Mental Health, out of the five most costly medical conditions within the United States, mental illness has grown the fastest. The increasing amount of people with mental health issues has added 16.9 million new people over the last 10 years in need of behavioral health treatment.¹ This growth is mimetic within various populations, particularly those in life transitions, such as unemployment,² college age students, new parents,³ children⁴ and aging populations.^{5,6} Further, those suffering from a mental illness are disproportionately entangled within the criminal justice system compared to the general population.⁷ Proactively targeting these individuals is imperative to reforming mental health treatment across the United States.

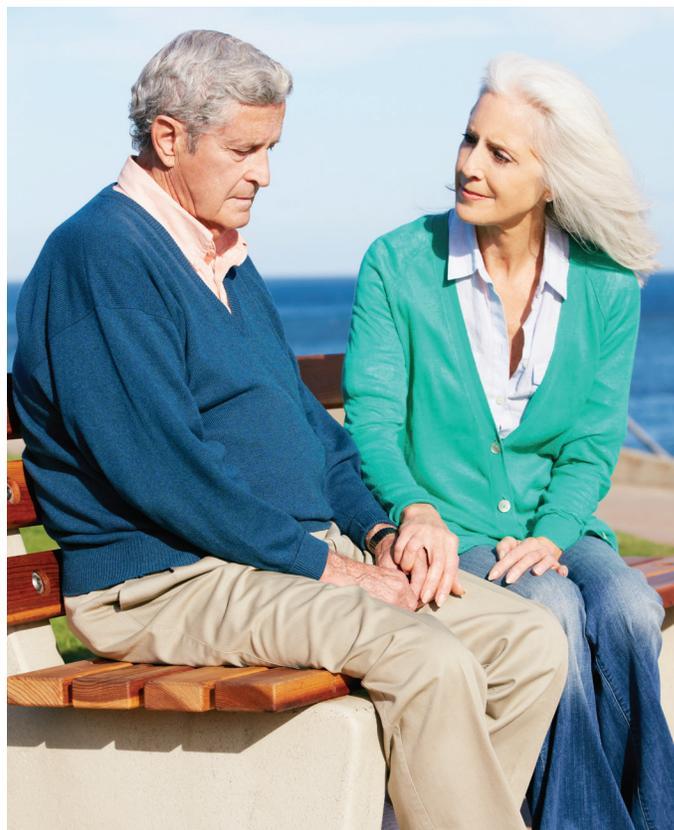
The current mental health care system in the United States has set the stage for a looming national crisis, particularly in light of recent expenditures—\$147 billion in direct spending on mental health care costs alone in 2009 accounting for 6.3 percent of all health spending and over 1 percent of the American gross domestic product (GDP).⁸ These inefficiencies affect a diverse population of individuals who suffer from pervasive and well-documented barriers to care due in large part to demographic, economic and access disparities,^{9,10,11} as well as a lack of recognition of mental health¹² problems and co-morbidity,¹³ and subsequent cost.¹⁴ These problems are reaching epidemic proportions:

- **Staggering demand for mental health services.** Fifty-eight million, or nearly 1 in 4, Americans experience some type of mental health disorder annually.¹⁵ Passage of the Affordable Care Act (ACA) expanded coverage of mental health and substance use disorder benefits at parity to general medical benefits to over 60 million people.¹⁶ The ACA in conjunction with the Mental Health Parity and Addiction Equity Act (MHPAEA) expands behavioral health care to levels never before seen. Additionally, the United States Preventive Services Task Force (USPSTF) recently suggested all adults over 18 to be screened for depression.¹⁷

- **Lack of access to care.** Within this population, less than one-third of adults and less than one-half of children receive services for their mental health issues.¹⁸
- **Escalating indirect costs.** Lost earnings of \$193.2 billion, \$24.3 billion in disability benefits.¹⁹

Mental health issues catalyze a host of problems such as disabilities,²⁰ medical comorbidities²¹ and suicide.²² These have high associated costs resulting from family dissolution, chronic medical conditions, substance abuse, violence and incarceration. In many instances, lost productivity in the workforce is a direct result of untreated mental illness, the leading cause of disability in the United States.²³

The increase in access to services to levels never before seen coupled with increasing costs creates a need for a solution. Unfortunately, traditionally private payers and employers did not have incentives to solve these problems, predominantly due to a lack of obvious profitability, and due to the government and nonprofit sectors shouldering the indirect costs of inadequate mental health care, such as suicide,²⁴ lost productivity and disability,²⁵ incarceration costs,²⁶ and a majority of hospital bills from uninsured individuals.²⁷ Due to the disparity in who is affected by the majority of these indirect costs, it will fall to the public and social sectors to fund the services required to address such a large, broad challenge.



There is an enormous unmet need which a proven online cognitive behavioral therapy (CBT) solution could fill. The goal of this article is to connect these two, creating a healthier and thus wealthier America. A clinical trial conducted at Rush University on Prevail Health Solutions' tailored online CBT intervention proved efficient and effective in the assessment, triage and treatment of depression and post-traumatic stress disorder (PTSD). The initial platform was tested within a veteran population, and the trial results demonstrated a number of benefits of online CBT over conventional treatment:²⁸

- Equivalent effectiveness as face-to-face therapy in reducing symptoms of depression and PTSD with an effect size for PTSD of 0.42 and depression at 0.56 (the average effect size of over 117 trials of traditional face-to-face psychological treatment was 0.42)²⁹
- Cost of treatment that is a fraction of traditional approaches
- Scalability in its use across genders, races and ethnicities

These findings point to an economically attractive solution to provide greater access to care, while at the same time reducing overall spending. Most important, there is an opportunity to expand the usage of this technology to reach a larger population and make a significant impact on health spending in America.

FRAMING THE PROBLEM

Rising Need for Mental Health Services

The need for mental health care is a well-documented and growing problem within the United States.³⁰ Quality of life is also greatly reduced for those living with an untreated mental illness. This is illustrated by the fact that many individuals who do not receive treatment for mental illness develop detrimental coping mechanisms such as alcohol or substance abuse.³¹ Additionally, those suffering from a mental illness are disproportionately involved with the criminal justice system compared to the general population.³² Proactively targeting these individuals is recommended, as costs have increased from \$42 billion spent in 1986 to \$172 billion in 2009 for mental health and substance abuse.³³ Importantly, the passage of the MHPAEA could also increase the usage of mental health services.³⁴

Lack of Access and Prohibitive Barriers to Treatment

The Centers for Disease Control and Prevention estimated the U.S. suicide rate in 2013 to be an average of 113 completed per day³⁵ with suicide attempts much higher. Research suggests there are strategies, including CBT, that could help address the needs of people showing risk factors.³⁶ Additionally, research estimates that 90 percent of those who die from suicide suffer from one or more mental illnesses.³⁷ These rates are even higher in the veteran community, where 22 individuals commit suicide daily, totaling 8,000 deaths per year.³⁸ Such statistics support the need for additional and alternative services to care for those in need, and for providing more effective treatment alternatives.

Most important, there is an opportunity to expand the usage of this technology to reach a larger population and make a significant impact on health spending in America.

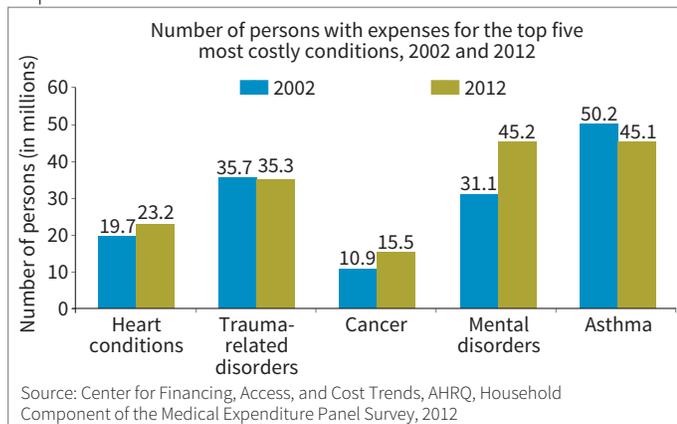
Prohibitive barriers to treatment include access to effective care, high cost of care, living in an underserved area, and attrition rates in face-to-face therapy.^{39,40,41,42} Data from the Substance Abuse and Mental Health Services Administration (SAMHSA) found that 4 out of 10 Americans with mental health issues did not receive treatment in 2011 for mental illness. Half of them reported that cost was the primary barrier preventing them from seeking care. Within the population of those who have mental illness, treatment is not equally accessible to all geographic regions. The National Alliance on Mental Illness (NAMI) reports that 58 percent of the US population lives in underserved mental health areas.⁴³ In many cities, the closing of state-run mental health facilities focused in low-income areas exacerbates this problem, creating an even graver outlook for these higher-risk populations.

Particularly troubling are the findings for indicators of drop-off rates in treatment, which disproportionately affect low-income and urban populations. Studies^{44,45,46} have repeatedly found that many of the underserved populations, which more often than not have more profound mental health needs, are also more likely to discontinue seeking mental health services. Indicators for high drop-off rates include low education levels, low socio-economic status, young age and broken family status.^{47,48} Concurrently, research has shown that higher-quality referral sources, such as increasing education about various treatment types and medications, and reducing the wait time between the referral and scheduling an appointment, can be fundamental in lowering attrition rates within the mental health treatment model.^{49,50}

Spiraling Direct and Indirect Costs

Costs associated with the current mental health care marketplace are complex and continue to pose major issues for both individuals who wish to seek help and from a macroeconomic societal perspective. Spending on mental health care represents a major driver of the overall costs associated with health care expenditures. Figure 1, depicting the top five drivers of health care costs in the United States, as well as the five-year growth, illustrates this point.⁵¹

Figure 1
Top Five Drivers of Health Care Costs in the United States



These statistics encompass a variety of costs, which can be simplified into direct and indirect. Direct costs, such as spending on treatment, are easier to quantify. While the current direct cost of mental health was a staggering \$147 billion as of 2009,⁵² the most recent year for which comprehensive data is available, an equally alarming trend is the quadrupling of cost within the last 20 years.⁵³ Estimates for the actual total costs exceed \$300 billion annually, as of 2014;⁵⁴ and with the rising need for mental health services that have been reported in this same time span, this cost is certainly now drastically higher. Costs that are not directly spent on mental health treatment stem primarily from comorbidity of additional health issues, lost productivity, including absenteeism, violence and incarceration costs, and increased severity of untreated mental illness.

Although medical costs for those with mental health issues can be two to three times as high as for those not having mental health or substance use disorders,⁵⁵ by far the highest indirect costs originate from lost productivity and disability caused by a severe mental disorder. Data from the World Health Organization in 2010 found that neuropsychiatric disorders were the leading cause for disability within the United States,⁵⁶ causing more than 400 million disability days per year.⁵⁷ Additionally, NAMI found workplace costs to be over \$34 billion annually in direct and indirect costs of mental illness. When SAMHSA broke down the spending, it found that in 2009, \$147 billion went directly to mental health care expenditures, treatment, direct care, medication, and so on. However, \$193.2 billion was allocated for loss of earnings and \$24.3 billion in disability benefits.⁵⁸ Those suffering from depression had higher rates of absenteeism and, in some instances, three times more sick days than non-depressed workers.⁵⁹ A recent Gallup poll, with data collected during 2011–2012, found that individuals diagnosed with depression accrued costs up to \$23 billion annually in absenteeism-related expenditures.⁶⁰

At the same time, comorbidity of other health disorders plays a major role in the increased spending that is related to a lack of treatment for mental health. A 2011 study by the Robert Wood Johnson Foundation found that more than 68 percent of adults with a mental illness had a medical comorbidity with at least one medical condition.⁶¹ As stated, there is evidence showing that those with mental health issues who are unable to afford treatment often develop damaging coping mechanisms to deal with those issues. This can develop in the form of smoking, binge drinking, substance abuse issues and unhealthy eating habits as a way to cope with untreated mental illness.⁶²

Furthermore, those with mental health issues are disproportionately entangled within the criminal justice system, driving additional costs and placing the burden for care on the prison systems.⁶³ A Department of Justice survey on inmates in state and federal correction facilities, along with a survey of inmates in local jails, found an extremely high prevalence of mental illness within the population.⁶⁴ The more salient point of this research was that it found that fewer than 50 percent of inmates had ever received mental health treatment before being in prison. The cost of incarcerating these individuals in need of treatment is extremely high. The Department of Justice *Source Book of Criminal Justice Statistics* reported that \$15 billion was spent on incarcerating individuals with mental illness in 1996.⁶⁵

The Current Payers

Private payers and employers do not have incentives to solve these problems alone, predominantly due to a lack of obvious profitability and the increasing responsibility being shifted to the government. As the private payers focus on medical expenses, the government must face the more holistic societal costs of mental health issues that ultimately are far greater than treatment. Also, many of the costs associated with untreated mental health issues are indirect costs that stem from a failure to invest in preventive care. These costs fall on society, for example, in the form of incarceration as a de facto treatment option or the utilization of emergency hospital services for the uninsured. Over half of prison and jail inmates report having mental health issues.⁶⁶ In a report by the Agency for Healthcare Research and Quality, findings indicated that 7.6 million emergency room visits involved adults seeking treatment for mental health concerns. Within this population, more than 1 in 8 did not have insurance.⁶⁷ Research estimates that uninsured care totaled \$84.9 billion in 2013.⁶⁸ However, various government programs were found to cover the cost for 75 percent of these bills, while the rest of the costs were absorbed by various hospitals.⁶⁹

Currently, there is a disconnect between those who are expected to provide the upfront resources to mitigate these long-term costs (employers and insurance groups), and those who will appreciate the majority of long-term benefits from such expenditures (society as a whole). Not surprisingly, the government and

nonprofit sectors find themselves shouldering more and more of the indirect costs of inadequate mental health care; a trend that is likely to continue and accelerate into the future.⁷⁰ It will fall to those sectors to fund the innovation required to address such a large, broad challenge. A recent report in 2011 by the Kaiser Commission stated that federal and state funding accounted for 62 percent of mental health care spending, while the private health sector covered 27 percent and individuals accounted for 11 percent.⁷¹

Employee assistance programs (EAPs) can be useful for many individuals who have access to them. However, there is still a large unmet need for underserved populations who are unlikely to be employed at organizations that offer such services as part of their health care package. Additionally, for those who are employed at eligible organizations, there is not always incentive on the employer's part to identify these individuals. And in this case, EAPs become ineffective in proactively identifying those suffering from mental illness and ultimately treating them.

As private insurance companies have an administrative and payer role, the indirect costs such as crime, incarceration and public assistance have less of a tangible effect on their profits and are therefore largely pushed to the public sector. In effect, the situation is a classic example of an externality. Because solutions to these problems will benefit all of society, asking only private insurance companies or employers to shoulder the burden of paying for them entirely makes little sense. Ultimately, the ramifications of not offering mental health treatment are far more dire for the public than the consequences passed along to private institutions, and new solutions funded through public/private partnerships are likely necessary to change the status quo.

PROPOSED SOLUTION

Longitudinal studies by the federal agency SAMHSA suggest that mental disorders, such as PTSD and depression, often lead to a need for costly interventions because of increased risk of substance abuse,⁷² incarceration,⁷³ and the need for disability benefits.⁷⁴ Currently, the United States spends more on these consequential interventions for those with untreated mental illnesses than on treatments or prevention efforts that directly target PTSD and depression. With the increasing costs of not treating those with mental health issues, there is an enormous economic and societal need to resolve the situation. There has been a shift toward using technology for a variety of services,⁷⁵ laying the groundwork for implementing technology-based solutions for mental health care that could provide the ability to reach more people.⁷⁶ Online behavioral health interventions, such as online CBT, offer a highly scalable, effective and anonymous model that provides a powerful solution for many of the problems currently facing the mental health care industry. Specifically, online behavioral health interventions offer:⁷⁷

- **Cost savings.** Massive reduction relative to current mental health treatment costs
- **Tailored, scalable solution.** An Internet-driven model that proactively identifies and engages users while still allowing scalability across geographies and populations
- **Effective triage and referrals.** The ability to provide quality referrals effectively and efficiently to established partners for higher-risk mental health issues
- **Education.** The capacity to enable individuals in their mental health choices through mental health literacy
- **Stigma reduction.** The ability to allow users to take easy first steps in an anonymous and non-stigmatizing environment

SCIENCE BEHIND THE SOLUTION

CBT Efficacy on Mental Health Disorders

CBT has extremely strong efficacy rates for mental health disorders such as PTSD, including in instances of severe mental illness,⁷⁸ depression⁷⁹ and anxiety.⁸⁰ The process of CBT is a practical hands-on approach to problem solving. The goal of CBT is to examine underlying core beliefs and then to change patterns of thinking that lay a foundation for an individual's mental health needs. Ultimately, this process seeks to change behaviors through changing attitudes and beliefs that may cause emotional distress. The structured process of the CBT model also provides an important framework to empower the individual during treatment and independently. An important strength of CBT, and why it is well-suited for an online model, is that the therapy tends to be brief but maintains strong post-treatment follow-up rates.

Evidence Supports Efficacy of Online Cognitive Behavioral Interventions for Mental Illness

CBT has increasingly proven to be an accepted treatment model for online behavioral interventions.^{81,82,83,84,85,86,87,88} As discussed, CBT is well-suited for incorporation into an online intervention due to CBT's efficacy, structure and brevity. The efficacy of CBT online interventions continues to be substantiated as more randomized control trials like Hobfoll⁸⁹ and Ruwaard⁹⁰ are conducted. A 12-week randomized control trial, conducted at Rush University, implemented an intervention on veterans using Prevail Health Solutions' tailored online CBT model for PTSD and depression, and users showed significant symptom reduction versus the control adjustment as usual group.⁹¹ Another significant finding was around user perception of efficacy of treatment. A 2014 trial found user perception of online behavioral interventions for depression to be equally acceptable as face-to-face therapy at a rate of 60 percent.⁹² Finally, brief and efficient online screening and support were shown to reduce attrition rates in therapy.⁹³ These findings provide strong evidence for efficacy of this treatment model in general populations.

The intervention has been independently assessed by the Agency for Healthcare Research and Quality (AHRQ), which assessed its evidence base as “strong.”

Treatment Cost Savings

The cost-effectiveness of online behavioral interventions has been highlighted in several studies and is continuing to be researched. In 2013, Rush University completed a randomized control trial of a next generation behavioral health platform developed by Prevail Health Solutions (Chicago) in collaboration with the National Science Foundation that created a Small Business Innovation Research (SBIR) success story.⁹⁴ The intervention has been independently assessed by the Agency for Healthcare Research and Quality (AHRQ), which assessed its evidence base as “strong,” and 94 percent of actual users would recommend it to their friends.⁹⁵ Prevail utilizes a model of acquire-engage-assess-triage, whereby reluctant care seekers are proactively acquired through digital marketing and social media efforts. From there, the individual engages with trained peer specialists, interactive communities, and a points rewards system. Next, demographic and clinical assessments are given to build a unique and custom profile on the user, creating a truly individualized experience. Finally, the user is triaged to the appropriate level of care, which could be clinically proven interactive programs, additional online resources, or, for high acuity cases, connection to a real person for traditional care. The online CBT intervention demonstrated a cost significantly less than conventional face-to-face therapy with similar clinical efficacy.⁹⁶ Additionally, 2014 findings also supported equivalent symptom reduction as face-to-face therapy for depression and PTSD.⁹⁷ By reducing the costs associated with treatment, economic barriers are removed and a broader range of individuals can be reached. Concurrently, by extending services to a wider range of individuals in need of mental health, the indirect costs associated with a lack of treatment may be reduced as well, as was demonstrated in the Rush University clinical trial.

Strength of a Tailored and Scalable Model

Historically, tailored and individualized interventions provide a more effective way of reaching individuals than off-the-rack models of care.^{98,99,100} With this in mind, there is a need for a model that can be easily customized to meet the unique needs of a wide variety of individuals, while still remaining cost-effective. Online behavioral interventions are well suited for

this, as they have much larger potential for national replication, providing rapid implementation and low costs. Substantially, lower barriers of entry into these types of mental health services allow for the treatment to be implemented efficiently and cost-effectively. The Prevail acquire-engage-assess-triage model is both interactive and individually tailored, using participant-supplied socio-demographic information such as race, ethnicity, employment, educational background and relationship status to inform lesson content and structure the overall intervention.

Effective Triage and Referral of High-Risk Mental Health Disorders

It is important to understand the scope of mental health disorders that online behavioral interventions can effectively treat. This requires a model that proactively identifies higher clinical levels of symptoms in individuals and provides a seamless triage to other services, such as crisis centers and face-to-face interventions. It is also necessary to reduce attrition rates in face-to-face therapy for individuals at higher risk for drop-off in care. Indicators for high drop-off rates include lack of insurance, stigma, youth, divorce, separation, loss of spouse to death, low education and low socio-economic status.^{101,102} At the same time, research has suggested that higher-quality referral sources, such as those that reduce waiting times and provide comprehensive education regarding treatment options, can be fundamental in lowering attrition rates within the mental health treatment model.^{103,104} A streamlined online behavioral health intervention has the capacity for quality referrals and could reduce the current drop-off rates of high-risk populations.¹⁰⁵

Educating Individuals

Education around mental health is instrumental in enabling individuals to make proactive decisions regarding their own mental health and well-being. Research has demonstrated global deficiencies in mental health literacy.¹⁰⁶ This includes recognizing signs and symptoms of developing mental illness, knowledge of effective self-help strategies for more mild problems, and information on where they can receive treatment. Through online behavioral interventions, like online CBT, a more broad and diverse range of populations will have access to all of these key points to educate and empower them in their mental health decisions.

A valuable and fundamental aspect of the online model is the ability for users to manage their own experience in the most convenient and private setting. This can be facilitated by enabling users to take control of their treatment through guided interactions such as peer-to-peer counseling, cognitive behavioral programs and community member boards. In addition, these cognitive behavioral programs reinforce healthy mental health behaviors to maintain positive effects long term. Providing clients with the capacity to access various stages of the

program at any point in their treatment process will allow them to heal on their own time.¹⁰⁷

CONCLUSION

Resolving the mental health crisis our nation faces is one of the most important challenges in modern health care. This will have a tremendous effect on reining in both direct and indirect health care costs that are spiraling out of control and will improve health outcomes for populations at higher risk of developing mental health issues. Online CBT interventions can support efforts to address this crisis by:

- Reducing direct and indirect costs
- Expanding coverage to underserved populations
- Engaging reluctant care seekers
- Providing a scalable solution

Combining a validated treatment method like CBT with an innovative, technology-driven model provides one of the key potential answers for reaching the largest population and effecting the greatest change.

Utilizing Prevail's proven technology is a way to address the aforementioned needs to a wider population. There is increasing need for a solution that is impacting nearly 1 in 4 Americans suffering from mental health issues, particularly when many of these people do not receive care. A technological solution enables more people to have access to much-needed care. The indirect costs of mental health issues continue to escalate, and a solution is needed to act in a proactive manner to mitigate these costs. In summary, using a technology solution provides the unique opportunity to both increase access to much-needed care while at the same time reducing both direct and indirect mental health costs. ■



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Managing Population Health

By Daniel Pribe

According to the Institute of Medicine (IOM), the U.S. health care system wastes an astounding \$750 billion annually.¹ By comparison, for the past several years the annual amount spent by the federal government has been roughly \$800 billion on defense and \$100 billion on education.² The need, and indeed the opportunity, for savings is immense. However, this is not an easy task due to a multitude of players in the health care industry who have competing interests. One solution that promises to help all players find common ground and achieve improved quality and reduced spending is “population health.” But what is population health and how does it fit into optimizing health care performance?

WHAT IS POPULATION HEALTH?

One of the most quoted definitions is from Kindig and Stoddart, who defined population health as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group.”³ This definition is actually quite complex as it requires an understanding of health outcomes and a distribution of those outcomes.



An alternative definition, and one that may be more applicable to this article (and population health in general) can be derived from the basic definitions of health and population. The World Health Organization (WHO) refers to “health” as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.”⁴ This definition is not without controversy, as some may question if the term “complete” should be included in the definition, but the definition suits the purpose of this article. “Population” is simply the sum of all the people within a group. Consequently, “population health” can be defined as “a term referring to the physical, mental, and/or social well-being of a group of people.”

How the term is used depends on one’s point of view. As the head of a household, one may view population health as the well-being of those within one’s home. A physician may view population health as the group of patients in his/her care. A government may view population health in the context of the well-being of those in a given neighborhood, state or country. This article focuses on the points of view of physician groups, health systems, and insurance companies or payer organizations.

Population health management (PHM) is a broad approach for addressing the health care needs of a specific population. Its goal is to keep a selected population as healthy as possible, minimizing expensive interventions. As health care information technology (IT) becomes more integrated, it is becoming possible to create registries that identify at-risk patients. Once these patients are identified, physicians can develop treatment plans for each patient and communicate with patients on an ongoing basis to encourage them to follow their treatment plans.

The adoption of PHM is happening in the context of a shift in risk from payers/insurers to providers/physicians, calling for a transition from fee-for-service to value-based care. In a fee-for-service world, physicians traditionally think about individual patients who are actively seeking or needing care. In a value-based environment, physicians must shift their thinking to the entire population they are responsible for, even if those in their patient panel are not actively seeking care. In order to be successful, value-based care requires a collaborative relationship between payers and providers and aligned incentive payments that reward outcomes, not the number of performed procedures.

TRIPLE AIM (+1)

The Institute for Healthcare Improvement (IHI) developed the “Triple Aim” framework to describe an approach to optimizing health system performance.⁵ The Triple Aim framework is the simultaneous pursuit of three dimensions of health care:

- Improving the patient experience of care (including quality and satisfaction);
- Improving the health of populations; and
- Reducing the per capita cost of health care.

Each of these aims clearly has merit. However, are they mutually exclusive? For example, if a health care system decides to improve the patient experience by reducing wait times and, as a result, expands its facilities and services, does it end up actually increasing costs? Or, does the desire for a health plan to lower costs by offering a narrow network product diminish the patient's experience due to limited access to care?

These questions point to one of the main challenges in the simultaneous pursuit of these three dimensions, which is the fact that no one entity or person can accomplish all three. Only by working collaboratively can players in the health care delivery chain have the capacity to impact all three dimensions simultaneously. Within this delivery chain, it is important to recognize the critical role of primary care providers (PCPs) in establishing successful accountable care throughout the delivery chain.

The PCP is, in most cases, the entry point for patients into the health care system. The PCP does not work in a vacuum, though. The care for a patient may include interactions with facilities, specialists, nurses, numerous other health care professionals and payers. It goes without saying that this care must be coordinated. This places a large amount of responsibility on the PCP who must be fully engaged in order to meet the three aims. Thus a fourth aim, the "+1," that should be addressed is "improving physician satisfaction."

So, what is needed for the simultaneous achievement of these *four* aims?

First, enabling technology must be available to all players in the health care delivery chain that combines claims data with clinical (EMR) data. This allows for identification of gaps in care and identification of inefficient or ineffective use of resources. Additionally, this improves research into more effective clinical practice guidelines and the development of provider decision support tools.

Second, incentives should be aligned for patients, providers and payers. Value-based contracts, in particular, should be designed in order to share the appropriate level of risks and rewards between physician providers, facility providers and payers. Fortunately, there is movement in this direction. For example, the Department of Health and Human Services (HHS) has set a goal of tying 50 percent of traditional, or fee-for-service, Medicare payments to quality or value through alternative payment models, such as accountable care organizations (ACOs) or bundled payment arrangements by the end of 2018.⁶

Third, physicians must have sufficient panel density and meaningful compensation that is tied to measurable goals that benefit the patient, provider and payer. If the panel size is too small then the incentive to change behavior will be too small. Additionally,

The goal of population health management (PHM) is to keep a selected population as healthy as possible, minimizing expensive interventions.

organizations should ensure compensation appropriately cascades to the PCPs, given their central role in achieving the four aims.

Finally, physician organizations should have the appropriate organization and leadership structure in order to drive physician engagement and motivate process and behavioral change as necessary.

CONCLUSION

The transition to population health management requires a shift in behavior for both payers and providers. It also requires a different understanding of the value of health care outcomes, which can be enhanced by an actuarial perspective. Our role includes providing decision support information and tools to physicians such that they make informed decisions. Actuaries can help health care organizations transitioning to value-based models by analyzing contracts and the financial and risk analysis of those contracts. By making information about cost and care metrics more transparent to physicians, and providers in general, and by equipping them with the right data and tools, we can help eliminate a tremendous amount of waste in health care spending overall. ■



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ENDNOTES

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ORSA 101 for Health Actuaries

By Dan Perlman and Doug Norris

As health actuaries, we have sometimes been accused of marching to the beat of our own drum. Although actuaries all deal with their own discipline's unique risks and challenges, actuarial techniques related to medical insurance coverages tend to be less of what outsiders might think of when they hear "actuarial." We don't get to use international actuarial notation as often as our life colleagues do. And those of us whose work is touched by health care reform tend to spend a lot of our time reading, understanding and applying the myriad rules and regulations that affect our industry (arguably occupying as much of our day as more traditional "actuarial" tasks do).

One place in particular where we've had less focus than others is in the practice of enterprise risk management (ERM). We have also paid less attention to the implementation of Own Risk and Solvency Assessment (ORSA) regulations in many states. This could be due to thinking that the short-tailed risks associated with health insurance do not necessitate the need for ERM and ORSA to the extent needed for life and casualty insurance businesses, because of a lack of training, or through sheer inertia. Whatever the reasons, ERM processes have taken longer to pervade the health insurance industry than other areas. Many of you reading this may be doing so just to find out what an "ORSA" is, what is ERM, and why are they being talked about in *Health Watch*?

ORSA is something that may already be going on in your company, and it's very closely tied to the practice of ERM. As an actuary, this is something that you should, at a minimum, be aware of, and something that potentially should be one of your core activities. So, what is an ORSA?

WHAT IS AN ORSA?

Before we start our discussion of ORSA in earnest, it is useful to remind ourselves what standards the National Association of Insurance Commissioners (NAIC) has set, and how they work. The NAIC is the umbrella organization for state insurance regulators (including regulators for the District of Columbia and U.S. territories). As health actuaries, we are acutely aware of two important ways that the NAIC influences our work—they provide the System for Electronic Rate and Form Filing



(SERFF) system that insurers (in most states) use for rate and form filings, and they develop the statutory financial statement templates that are used for insurance company annual and quarterly statements.

Another function of the NAIC is to draft model laws and regulations for states to adopt. For instance, nearly every state has the same laws governing the coordination of benefits when someone is covered by more than one health benefit plan. This didn't happen by accident, but because the NAIC promulgated a Coordination of Benefits Model Regulation,¹ which most states have since adopted. This model regulation was last revised in October 2013, although many states still have an older version of this on their books. This is because the NAIC cannot make laws or regulations by itself—it still requires action by each state to enact the laws and regulations that are promulgated by the NAIC. Some states do this more quickly than others, and not every state enacts the NAIC model text in an unaltered form.

The ORSA concept comes from another NAIC Model Act,² which was released in 2012, and which became effective in 2015 for the states that have adopted it. The ORSA Model Act is only six pages long,³ and most of those six pages deal with the applicability rules and exceptions to ORSA. Only one page (or so) of the model act relates to what ORSA actually is, and what insurers have to do. So what do insurers have to do? At its core, the ORSA Model Act simply requires that insurance companies⁴ implement and document an ERM program. ORSA and ERM are different things, but closely related. You can do ERM without conducting a formal ORSA, but a formal ORSA requires ERM.

ERM is an important activity for insurers to do, whether it's required or not. As such, the Society of Actuaries and the Casualty Actuarial Society focus on ERM practices in their CERA credentialing processes. In one sense, ORSA merely codifies a good risk management practice that should already be happening throughout the insurance industry. However, health insurers have lagged other disciplines in terms of implementing these processes into their organizations.

ORSA is an acronym, and as with many acronyms, it's useful to look at each letter separately, since each letter contains valuable insight into key ORSA principles.

- The first letter in ORSA is “O,” which stands for “Own.” A health insurer is supposed to conduct its own ORSA; although nothing prohibits getting help from outside parties, the ultimate responsibility of an ORSA falls upon the insurer. An ORSA is not something that a state regulator will do to you, or do for you. The term “own” also implies a certain level of flexibility in recognition that every company has a unique combination of goals and characteristics—with ORSA, there is not a prescribed formula or approach (unlike other exercises, such as risk-based capital (RBC) calculations).
- The “R” in ORSA stands for “risk.” Managing risk is the business that insurance companies are in (and also the specialty of the actuarial profession), so it may seem obvious what “risk” entails. However, we commonly see people (even health actuaries) misinterpret what “risk” means, both by mixing up expectations with variability and by not looking far and wide enough for risks that aren't obvious. Generally, “risk” means uncertainty. When conducting an ORSA, the insurer should be thinking about *variation* in future results, not just whether the most likely outcome would be a bad one. Something that has a certain bad outcome is not risky—it's just bad. Driving a car at 100 mph toward a riverbank with no bridge does not present the risk of a bad outcome; in this case, there's a certainty of a bad outcome. We don't need ERM to tell us that this is a bad idea. On the other hand, driving a car at 100 mph in the direction of a bridge that I believe to exist, based upon construction plans read one year ago, is a risky action. Perhaps the bridge was never completed, or the bridge was moved to a different location farther down the river. Or perhaps the bridge was completed according to the plans, and things will turn out OK.
- The “S” in ORSA stands for “solvency,” which is the focus of ORSA. As a health insurer, will you be able to satisfy the obligations of your policyholders, and what circumstances would make it so that you couldn't do so? “Solvency” refers to things that jeopardize the company, not merely the risk of disappointing shareholders or incurring a small loss.

Stress testing is a key part of an ORSA. This is not the place to assume bad things will never happen (just because they have a low probability); thinking about unlikely (but very bad) things is part of the point of an ORSA. The *ORSA Guidance Manual* states (multiple times) that the insurer should analyze risk exposures “under both normal and stressed environments.”

- Last but not least, the “A” in ORSA stands for “assessment.” An ORSA is not an equation, or a formula, or a test—it's an assessment. It's easy to compare and contrast this with RBC requirements—although there are certainly mathematical aspects of an ORSA, this assessment requires a lot more *qualitative* work than an RBC calculation requires. An ORSA requires you to think about things that are difficult to measure, and even for items where math is present, the rules are not spelled out as they are for an RBC calculation.⁵

If you prefer sports analogies, think gymnastics, not track and field. We can't use a stopwatch or tape measure to immediately determine the results, but instead need to look at the big picture and reach a judgment-based decision. ORSA is an assessment, not a measurement.

So that's what an ORSA is—it's a structured implementation of ERM processes. Health insurers have not typically focused on ERM. There is a tendency to view ERM as something pertaining to the banking industry or to other types of insurance. Many health insurers (especially those focusing on short-duration products) may not see ERM as important or useful, since it's easy to believe that the risks faced by health insurers are simple—problems occur when claims and administrative costs exceed premium collected, and that will happen if trends are higher than anticipated.⁶ The reality, however, is that ERM matters for health entities, too. Many of the risks are somewhat different than in banking or life insurance, but they are still very real. They go beyond just looking at risks associated with claims and premium rate-setting.

WHAT IS ERM?

As health actuaries, we focus on organizational risk as a matter of course—this makes us uniquely suited to drive ORSA development. Moreover, we know the risks health insurance carriers face have gotten significantly more complicated over the past few years. These risks are interconnected, and ERM is the perfect tool for a “whole body” risk analysis.

A basic purpose of ERM is to identify the risks that exist (or could emerge), decide how much risk an organization should take on and how to mitigate those risks, and to determine appropriate capital levels to support them.⁷ ERM provides a framework to identify potential risks—one of the biggest shortcomings of risk management in any organization (including health

insurance) is that people give intense focus to things that have already happened, and wait for them to happen again, to the exclusion of focusing on what new risks may exist.

ERM looks at the entire enterprise—sometimes risks in different company segments offset one another. A classic example would be mortality risk in a life insurer, where an unexpected decrease in mortality is usually adverse with respect to annuity products but favorable with respect to term life products. On the other hand, there may be processes that pose only a small risk to any specific product line or division, but are much more serious when aggregated across an entire organization. For example, if different divisions make investment decisions independently, it is possible for each division to have a well-diversified bond portfolio across issuers and industries. But if each division's bond holdings in the energy sector are all from the same issuer, then the company as a whole could find itself with more issuer concentration than it would like.

ERM considers accumulations and combinations of potential risks—sometimes individual risks are not significant, but combinations can be devastating. For example, the risk from underpricing in the Affordable Care Act (ACA) markets in 2014 may be modest. Separately, the risk that the ACA risk corridors program would be underfunded in 2014 may be modest. As we've seen, the combination of these risks has been devastating to multiple health carriers.

RISK IDENTIFICATION

Much of the ERM battle is identifying what risks are out there for a health insurer. It's not an easy task. Some risks arise from within the company, but others are external—for instance, general economic conditions could make it difficult for people to pay for your coverage (and some coverages allow for consumers to take their own premium holidays if they so desire).⁸ Regulatory and legal changes can introduce challenges that are difficult to mitigate or anticipate; when President Obama decided to allow non-ACA-compliant policies to remain in the individual and small group commercial marketplace on Nov. 14, 2013,⁹ health insurers were already offering ACA-compliant plans for 2014 whose premiums assumed otherwise. Some future risks may be truly unpredictable, but that doesn't mean that we shouldn't perform stress testing on potential calamities. Not all risks can be reinsured away, and not all risks can be mitigated through product line diversification.

We'll refer the reader to a 2006 *Health Watch* article for an enumeration of broad risk categories to consider.¹⁰ As we all know, business changes, and the specific risks that health insurers face have evolved since 2006. However, these broad categories are still relevant a decade later.

To evaluate some of the categories that Clark lists, an actuary may have to (gasp!) talk to and work with people who are not actuaries. A simple example relates to claims processing. This is a significant area of operational risk (and perhaps legal or regulatory risk) for a health insurer due to the volume of claims coming in the door. Will claims be adjudicated under the terms of the policy, and does the method of claims adjudication align with the understanding of the actuaries who priced the product? As insurers come up with ever-more-clever and complicated benefit design structures for medical coverage, this risk becomes more pronounced. What processes and controls are in place to ensure accuracy? Much of this information lies outside the actuarial department, but actuaries are well-positioned to drive the assessment.

Another particular problem relates to strategic risk. Typically, those responsible for determining a company's strategy are the same as those ultimately responsible for evaluating a company's risk. It can be difficult to be objective. External points of view can be good for testing the "group think" that may exist within an insurer. Relatedly, it is easy to fall into the trap of only evaluating whether *actions* create a risk of significant financial loss. It is harder to evaluate whether *inactions* give rise to this risk, because one reason a company may not have taken a particular action is that it never occurred to anyone to do it. The *ORSA Guidance Manual* does ask for attention to risk mitigation activities that may not already be in place.

A challenge of conducting an OWN risk and solvency assessment is that it's easy to fall into the trap of considering only things that have caused problems for you or your company in the past, and not things that have happened to other companies (let alone things that haven't happened to anyone yet). Although the responsibility of an ORSA falls on the carrier, it can be useful to get help from others when analyzing what could lead to future catastrophic risk. Limited employee tenure and institutional memory can be serious problems in this effort. Suppose a company's business model gives rise to a 10 percent risk in any given year that a certain catastrophic event will take place. Many people would be uncomfortable living with that amount of risk. However, there is a 12 percent chance that the event *hasn't* happened in the past 20 years¹¹ (which may be longer than any current employee has been thinking about such things). This illustrates how easy it is for risks to be missed in the ERM process if there is not a concerted effort to try to identify new and emerging risks. It can be mildly disturbing to realize that 1 in 8 risks with this frequency of occurrence won't be personally remembered by anyone with less than 20 years of experience, especially when it's more likely than not that it will happen at some point in the next seven years.

cifically, we recommend that carriers talk with their department of insurance (DOI) about what they are looking to see in an ORSA report.

WHAT'S THE NEXT ORSATUNITY?

ORSA is a new and evolving opportunity for health actuaries. In the future, we may see more states adopt it (many states adopted ORSA just within the past year).

Since ORSA is relatively new, it's likely that some state insurance divisions don't yet know exactly what the "perfect ORSA report" looks like. There will likely be more details and direction, and perhaps specific regulations, as we move forward. These may be guided by the reports that are currently being filed, with the ones that states like the best forming the basis for future requests.

Actuaries have always served an important role in risk management for health insurers. With ORSA rules putting a fresh spotlight on ERM procedures in the insurance industry as a whole, health actuaries are well-positioned to make sure that risks related to health coverage get the attention they deserve. ■



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- ¹ <http://www.naic.org/store/free/MDL-120.pdf>, retrieved Feb. 16, 2016.
- ² http://www.naic.org/documents/committees_e_risk_management_orsa_adopted_120906.pdf, retrieved Feb. 16, 2016.
- ³ There is also a longer (and helpful) *ORSA Guidance Manual*, which we discuss later in this article.
- ⁴ At this time only insurance companies and insurance groups meeting certain size thresholds are required to file an ORSA report. This is discussed in greater detail later in this article.
- ⁵ Another important difference between ORSA and RBC is that a company's RBC requirement is mainly calculated using historical data. For insurers issuing medical coverage and filing on the Orange Blank, the H2 (underwriting risk) component of the RBC formula is usually by far the most important, and that calculation (and hence an entity's regulatory capital requirement) is heavily driven by what last year's claims were. ORSAs, on the other hand, need to be forward-looking. An ORSA is arguably better suited to detecting problems for rapidly growing companies or companies operating in a rapidly changing marketplace.
- ⁶ Thomas Nightingale comments on this widespread perception among group insurers in "Enterprise Risk Management for Group Health Insurers," *Group Insurance* (6th ed.), ACTEX Publications, 2012, p. 781.
- ⁷ Of course, ERM is also useful to aid in strategic decision-making and to keep different segments of an insurer talking to one another about risk. Actuarial Standards of Practice Nos. 46 and 47 contain a definition of ERM: "The discipline by which an organization in any industry assesses, controls, exploits, finances and monitors risks from all sources for the purpose of increasing the organization's short- and long-term value to its stakeholders."
- ⁸ Michael Kolber and Hans Leida. 2014. "How Consumers Might Game the 90-Day Grace Period and What Can Be Done About It." *Health Affairs Blog*, Nov. 17, <http://healthaffairs.org/blog/2014/11/17/how-consumers-might-game-the-90-day-grace-period-and-what-can-be-done-about-it/>, retrieved Feb. 17, 2016.
- ⁹ <http://us.milliman.com/uploadedFiles/insight/2014/update-canceled-plans.pdf>, retrieved Feb. 17, 2016.
- ¹⁰ Kara Clark. 2006. "Enterprise Risk Management." *Health Watch* Issue No. 51, January, p. 14.
- ¹¹ $(1 - 0.10)^{20} = 0.122$. This assumes that these events are independent from one year to the next, and that the event occurs at random without the probability of the event changing as a function of time since the last occurrence.
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- ¹³ http://www.naic.org/store/free/ORSA_manual.pdf, retrieved Feb. 17, 2016.

Leader Interview

With Julia Lambert

Julia Lambert has 20 years of experience as a health care actuary and currently serves as President of Wakely Consulting Group. Julia has worked as a consultant for commercial and government payers, providers and employers. Her consulting niche has historically been in providing regional health plans with actuarial services for all lines of business, including group, individual, Medicare and Medicaid. She currently serves as the appointed actuary for three regional commercial payers, and is responsible for the rate filings and valuations related to those companies. Julia serves on the Health Section Council of the SOA and is the Medicare subgroup lead.

ON BEING AN ACTUARY

Health Watch: How and when did you decide to become an actuary?

Julia Lambert: I was working as a programmer at a bank in Omaha, Nebraska, in 1994. I had recently married, and my husband challenged me to do something more with my master's degree in mathematics. I had heard about actuarial science as a math career in college and decide to look further into it. I took the first two exams, which back then were Calculus and Statistics. Having success with those exams, I then applied to Physicians Mutual and that was the beginning of my career.

HW: What other careers did you consider? Or, if you have had other careers, can you describe them?

JL: After finishing a bachelor's degree in math, I became a high school math teacher. I realized I was not good at managing or disciplining teenagers but I loved the teaching part. I decided to pursue a master's in mathematics at the University of Colorado with the intention of getting a doctorate and becoming a math professor. However, I met my husband a few months before receiving my master's and that changed my plans. I followed him and his job to Nebraska, where I was confronted with finding a job with my math degree. Programming seemed to be the best fit. I really enjoyed the problem solving aspect, as well as the teamwork involved in tackling the huge Y2K challenge; but the pager going off at night was not so wonderful.

HW: What was your favorite job before you became an actuary?

JL: I really enjoyed teaching and honestly still do. Although relating to high school students wasn't my forte, I got other chances to teach during grad school. My favorite experience was teaching students at Offutt Air Force Base in a continuing education program for the University of Nebraska at Omaha. This was a second job I took for a few years to help pay the bills when I first got married. I really liked teaching in the adult environment. I do find that the actuarial consulting field fulfills my teaching interest, both in helping others at Wakely and also when I get to explain concepts and results to a client.

HW: What has been most crucial in your development as an actuary?

JL: No question, my entire career has been a partnership effort with my husband, Harrel. I could not have achieved my FSA with two babies, nor could I even do my current job without his support, as well as the encouragement of our children.

HW: Looking at your career as an actuary, do you see any important learning milestones or turning points in your career?

JL: Of course, passing that last exam to become an FSA is a key point of an actuary's career, but there are a few others for me as well.

- Moving from a large insurance company to a consulting firm was an important turning point in my career. Both have different rewards and challenges, but I discovered a passion for consulting (a new opening for me to get back to teaching) and working with clients when I got an opportunity with Reden & Anders (now Optum).
- Mary Murley, who is now the chief Medicare actuary at UnitedHealth, had the greatest influence and impact on me. She was my manager for most of my years at Reden & Anders. She was (and is!) a great mentor, worked harder than anyone, kept a great demeanor, and really taught me how to bring integrity to every situation.
- A last key turning point I'll mention was a move to the company I am with now, Wakely Consulting Group, a privately owned actuarial firm. Brian Weible gave me an opportunity to replace a partner who was retiring. Despite our reluctance to move across the country to Clearwater, Florida, Harrel and I took the risk of moving our middle-school-aged kids to a new state. Although not without some bumps, it's the best career decision I've ever made.

HW: As an actuary, what keeps you awake at night?

JL: My concerns generally come back to the same two issues.

1. Maintaining and continually improving the quality of the work Wakely delivers to our clients
2. Making Wakely a company where actuaries can find career fulfillment; having the resources they need and opportunities to grow and improve their skills

I find more and more that the solutions in these areas are an art, rather than a science.

ON BEING A LEADER

HW: How much did your actuarial training prepare you for this role? What additional training—formal, informal or otherwise—did you need to be successful?

JL: The actuarial training and experience is probably what I find to be the easiest part of my role. Even though it is the easiest part for me, it was absolutely the most essential element in building some credibility with others. Being a go-to resource regarding knowledge of regulations, what's happening in the industry, applicability of Actuarial Standard of Practices and Medicare Advantage bid idiosyncrasies, was the start of many leadership opportunities.

I had to (and still need to) work harder at finding resources and time to improve my managerial and organizational leadership skills. I believe that my actuarial training contributed to my sense of curiosity and being a lifelong learner, regardless of the subject matter.

HW: What are the most important lessons you've learned in your role?

JL: Despite my aversion to confrontation, the hard things must be dealt with head-on. Although I know this from experience, I still find it extremely difficult.

HW: Describe the biggest one or two challenges that you have faced in your role.

JL: Growing from a small firm (<10 when I first got to Wakely) to where we are today has been a roller coaster, and change is always difficult. There have been many challenges, from how to integrate remote employees, to how to keep staff busy when client work is low, to how to share and assign clients.

Although not “easy” on families, hard work and long hours from my colleagues have always been a straightforward solution to the growing client work. This is a huge tribute to those who work at Wakely. We try to never take that for granted.

The recent challenges have come from creating policies and organizational structures that will serve Wakely long term as we continue to grow. From our small beginnings, we know there is almost nothing better than a small team where everyone has the same comp arrangement; the organizational structure is non-existent except for the one boss; every completed project and new client are shared successes; people care about you; you know you make a difference; and if you need something, you just walk into the boss's office.

It's been a huge challenge to implement structures that reward employees for the various roles that need to be filled and provide some guardrails for the organization, while at the same time trying to maintain that small office environment that many of us came to Wakely for.

HW: What advice would you give to another actuary going into a leadership position for the first time?

JL: Oh where to start. ... I'll name a few:

- Don't think because you're intelligent that you're also a good leader. I am guilty, as I am sure many actuaries are, of thinking I'm smart enough to do anything. That was maybe true with learning the accounting system and understanding taxes, but people and relationships are different. Fact is, I wish I would have taken more leadership training courses. We concentrate so much time and energy in taking actuarial exams, I think building leadership abilities can get forgotten. I was fortunate to have a good leader as a mentor, but we are not all so lucky.
- Gain consensus. In our field, we are lucky to work with a ton of smart people. You can have ideas, but unless the team agrees and buys in, those ideas will go nowhere. And honestly, be open to other ideas and/or modifications to the idea. Your idea might not be the best one.
- When you mess up (and you will), don't be afraid to admit it to others who were impacted. And most important, forgive yourself, learn from it and move on. ■

Section 1332 Waivers: Coming Soon to a State Near You?

By Greg Fann

When I sampled 10 actuaries and told them I was writing an article about Section 1332 waivers, I was met with 10 blank stares. If I conduct the same experiment a year from now (of course after filtering out avid *Health Watch* readers), will I get the same result? I don't know the answer to that question; as we actuaries like to say, it depends. This article provides an introductory view of the nature and requirements of Section 1332 waivers and discusses the potential developments of Section 1332 and what this might mean for health actuaries in the coming years.

BACKGROUND

Section 1332 of the Patient Protection and Affordable Care Act (ACA) created opportunities for waivers¹ in commercial markets that allow states to bypass some of the marketplace requirements, mandates and tax penalties constructed by the ACA. It is fair to say that these marketplace waivers are analogous to Section 1115 (of the Social Security Act) waivers that allow Medicaid rules to be waived. At first glimpse, this is a tremendous game changer given the varying state decisions on Medicaid expansion and the development of exchanges, not to mention the provocative vocal viewpoints expressed by some state leaders regarding the economic implications of the ACA. The prospect of states being able to muddle with the ACA marketplaces has been described as “breathtaking” and “state innovation on steroids.”²

Section 1332 ... created opportunities for waivers in commercial markets that allow states to bypass some of the marketplace requirements, mandates and tax penalties constructed by the ACA.

Why then is this opportunity still somewhat under the radar and not top of mind for actuaries? There are two primary reasons. First, Section 1332 waivers cannot be implemented until 2017. Chatter has been light in the five years since ACA inception, but it is picking up in 2016 after federal guidelines were promulgated in December 2015. Second, there are severe limitations about what actually can be waived, and these limitations thwart major changes to the principles of expanded coverage and affordability. In other words, those that seek radical changes to the ACA are not going to be able to accomplish their objectives through Section 1332 waivers.

WAIVER REQUIREMENTS

For a Section 1332 waiver to be considered, state legislation needs to be passed, a public hearing and comment period need to occur, and a formal waiver application process needs to follow. A Section 1332 waiver requires discretionary approval from the Secretary of Health and Human Services and the Secretary of the Treasury and is predicated on meeting these four requirements, frequently referred to as *guardrails*:

1. **Comparable scope of coverage:** The waiver must provide coverage to a comparable number of state residents absent the waiver in each forecasted year.
2. **Affordable:** The waiver must provide coverage as affordable as coverage absent the waiver. The affordability measure is net out-of-pocket spending, which includes premium contributions, cost sharing and spending on non-covered services impacted by the waiver. The measure will apply to the average enrollee as well as enrollees with high medical costs relative to income.
3. **Comprehensive coverage:** The waiver must provide coverage that is as comprehensive as coverage absent the waiver. The state must demonstrate how the benefits offered are as comprehensive as the state's benchmark plan.
4. **Deficit neutral:** The waiver must be federal deficit neutral in each year of a 10-year budget period. This is a stricter requirement than 1115 waivers, which allow deficit neutrality over the life of the waiver.

In addition to having to meet the first three requirements as measured on an average enrollee basis, waiver applications are also evaluated based upon the impact to vulnerable residents. These populations include individuals who are low income, elderly, and have significant health issues.

WHAT CAN BE WAIVED?

The ACA “community rating” (old-school term, the new lingo is “fair play”) framework of guaranteed issue policies without pre-existing condition limitations or the application of health status as a rating variable cannot be modified, but several key components (not an exhaustive list) of the ACA requirements can be waived:

1. **Qualified Health Plan requirements:** States can waive the network, quality and “single risk pool” requirements associated with Qualified Health Plans.
2. **Essential health benefits/actuarial value requirements:** States can modify the benefit requirements but must comply with the comprehensive coverage requirement.
3. **Exchange/marketplace requirements:** States could privatize their exchanges and retain the same federal funding amounts available through the public exchanges.
4. **Subsidies:** States can reallocate how federal funds available absent the waiver can be used to provide affordable coverage.
5. **Mandates:** States can waive the mandates and penalties; alternatively, they could apply something similar to the Medicare Part D late enrollment penalty or other responsibility mechanisms in the individual market.

INITIAL STATE ACTIVITY

Three states—Hawaii, Massachusetts and Vermont—have active proposed waivers that seek to preserve pre-ACA employer coverage mandates and characteristics. Minnesota, Ohio and Rhode Island have passed legislation authorizing the waiver application, and a Health Care Financing Task Force in Minnesota has proposed a comprehensive list of recommendations,³ some of which require Section 1332 waiver approval.

Arkansas and New Mexico are considering Section 1332 legislation. Notably, the Arkansas intent would be to continue the “private option” that allows Medicaid recipients to access the marketplace with Medicaid funds through a Section 1115 waiver that expires Dec. 31, 2016.

Early discussions are underway in three other states. California had a public meeting in February 2016.⁴ Colorado seeks to use Section 1332 to develop a single payer system, an experiment that was recently abandoned in Vermont due to lack of funding. Kentucky may be the most interesting state to watch with a charismatic new governor who, during the campaign, had mentioned the possibility of reversing Medicaid expansion and demolishing one of the better-performing state exchanges, and has continued to maintain a strong health care focus after taking office. A combined innovative “super waiver” utilizing both Section 1115 and Section 1332 is a noteworthy and distinct possibility in Kentucky, but it is not likely to be developed and approved in 2016.

ROLE OF ACTUARIES

Approval of a Section 1332 waiver will require actuarial involvement, namely a requirement of an actuarial certification. The certification is required to support the state’s estimate of the first three waiver requirements; arguably, actuarial input could also be crucial to some of the assumptions in the deficit neutrality calculation, but it is not required in the guidance. The calculations to determine waiver compliance are necessarily complex

and are required by the guidelines to be constructed “using generally accepted actuarial and economic analytic methods such as micro-simulation.”⁵ Detailed documentation of the actuarial work product is also required with the waiver application. The promulgated guidance for each of the four requirements contains this paragraph: “The state should also provide a description of the model used to produce these estimates, including data sources and quality, key assumptions, and parameters. The state may be required to provide micro data and other information to inform the Secretaries’ analysis.”⁶

OPPORTUNITIES FOR STATES

States can apply to implement simple targeted corrections that allow specific state initiatives to function efficiently or seek major changes in how federal funds are applied. A sampling of ideas is included here:

- **Family glitch.** Individuals with access to affordable employer-sponsored coverage are not eligible for premium and cost-sharing subsidies through the marketplaces. The affordable definition is based on the required premium contribution relative to the employee’s household income. The affordability test is based on employee-only coverage and not family coverage. This results in some families not having affordable employer-sponsored coverage and also not being eligible for premium and cost-sharing subsidies. This unfortunately impacts several million low-income people. While there are calls to address the “glitch,” there is not a clear legislative path for a correction at the federal level. States could use a Section 1332 waiver to redefine affordability on a family basis.
- **Subsidy cliffs.** What sounds like a scenic lookout to explore on the San Diego coast is not a fun place to visit and is an unfortunate problem with unintended misaligned incentives. Unlike the individual income tax calculations that are generally graduated, the subsidy calculations in the ACA have some sharp break points, where earning additional income becomes punitive. Section 1332 waivers could be used to smooth these cliffs. States could also use a Section 1115 waiver in conjunction to smooth the cliff at the Medicaid/marketplace income threshold.
- **Broader market appeal.** The mandated age ratios and distribution of premium tax credits resulting from the premium subsidy calculation create a market that is more favorable to older enrollees.⁷ A waiver could allow the state to reallocate the subsidy dollars to be more attractive to a younger demographic. More broadly, a state can fund its reform effort by redirecting the federal financial assistance from cost-sharing reduction payments and small business tax credits as well as premium subsidies. The government-sponsored promotion of individual health insurance to young adults in the initial years of ACA

implementation has been creative and somewhat successful, while concern lingers that market sustainability relies upon continued enrollment of this group to maintain a stable population and balanced risk pool. High premiums and cost sharing with little realized value could drive young adults out of the market. A Section 1332 waiver could be used to reallocate federal dollars to attract a younger market through financial incentives rather than aggressive marketing promotions. States may also elect to provide subsidized coverage above 400 percent of federal poverty level; this is allowable given that the budgetary impact is compliant with the four guardrails.

- **Premium risk transfer.** The ACA subsidy formula puts the premium risk on the burden of taxpayers. Subsidy-eligible enrollees purchasing the benchmark plan are insulated and only responsible for a percentage of their income, regardless of the premiums in the market. The remaining amount is the responsibility of the federal government. This has created an unusual leveraging situation where plans priced lower than the benchmark cost younger enrollees more than older enrollees at the same income level.⁸ Similar to the broader market appeal aspiration, states can use a Section 1332 waiver to convert the premium risk to the enrollees, using either a fixed-dollar contribution or a percentage-of-premium concept (both more in line with employer contributions in the group market), but changes must be budget neutral to the tax credit approach in the ACA.
- **Basic Health Plan replacement/alternative.** States could use a Section 1332 waiver to develop a program similar to a Basic Health Plan (authorized in Section 1331) with much more flexibility. Additionally, states can receive 100 percent of the federal funding allotment rather than the 95 percent allowed for a Basic Health Plan.

Notably, states that have not developed their own exchange should be aware of the operational limitations on the federally facilitated exchange. The healthcare.gov platform is not designed to accommodate state flexibility with tax credits or income adjustments. States that are serious about innovation should consider the current inherent limitations of abandoning their state exchange or remaining on the federal platform.

PRESIDENTIAL ELECTION YEAR DYNAMICS

Given the late timing of the guidance, the strict requirements, and the logistics and time frame required to get a waiver up and running, it seems unlikely that any states, other than the three states with existing minor proposals, will have waivers approved by the Obama administration. The next president may increase the waiver flexibility and offer more choices for states. The December 2015 guidance is not binding; it can be easily changed by a future administration.

All candidates except Hillary Clinton envision federal health legislation significantly different from the ACA and may have little interest in approving Section 1332 waivers. That being said, outright repeal may be an uphill battle and waivers that suit the new president’s policy goals may be a potential outcome. Clinton actually references Section 1332 on her campaign website without mentioning it by name, stating she “will work with interested governors, using current flexibility under the Affordable Care Act, to empower states to establish a public option choice.”⁹

CONCLUSION

Section 1332 provides opportunities for states to adjust some of the ACA difficulties within their borders and tailor the federal requirements to the states’ needs. This will allow corrections to some of the unintended consequences, particularly addressing the rough edges and unfortunate coverage gaps in the individual market. States that seek to pursue innovations for Section 1332 waivers will need actuaries to opine on the waiver impact to enrollment, benefit richness/selection and affordability. Will states proceed with Section 1332 waiver implementation? We will have to wait and see. If they do, it will be yet another pioneering actuarial opportunity to harvest from the fields of ACA implementation. We should be ready for the challenge. ■



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ENDNOTES

- ¹ Section 1332 waivers are sometimes referred to as state innovation waivers or Wyden waivers because Sen. Ron Wyden was the initial supporter of the waiver idea in a prior legislative proposal.
- ² <http://www.brookings.edu/blogs/health360/posts/2015/04/29-aca-section-1332-waiver-butler>
- ³ http://www.mn.gov/dhs/images/final-materials-final-report_01-28-2016.pdf
- ⁴ <http://hbex.coveredca.com/stakeholders/Covered%20California%201332%20Waiver/Agenda%20-%20February%202016%20Section%201332%20Wavier%20Meeting.pdf>
- ⁵ <https://www.gpo.gov/fdsys/pkg/FR-2015-12-16/pdf/2015-31563.pdf>
- ⁶ <https://www.gpo.gov/fdsys/pkg/FR-2015-12-16/pdf/2015-31563.pdf>
- ⁷ <https://www.soa.org/Professional-Interests/Health/hlth-detail.aspx>. See Publications: *Health Watch*—May 2014.
- ⁸ <http://www.theactuarmagazine.org/the-true-cost-of-coverage/>
- ⁹ <https://www.hillaryclinton.com/issues/health-care/>

Research Paper Review: “Measuring Consumer Valuation of Limited Provider Networks”¹

By Sarah Hoover, Brian Plaskow and J. Patrick Kinney

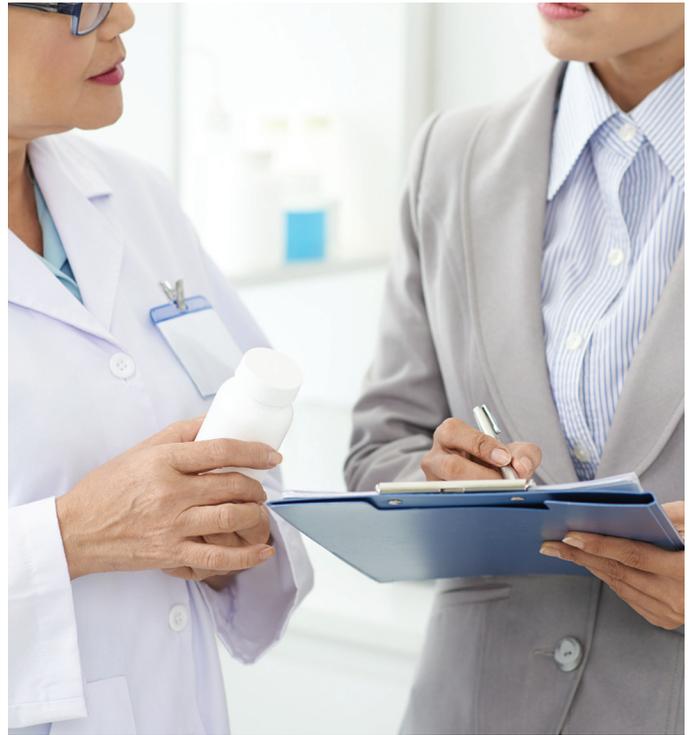
The Behavioral Finance subgroup of the Health Section will be publishing a series of literature reviews in Health Watch. This is the first review of three in the series. Further information about the subgroup as well as links to the literature under review can be found at <https://www.soa.org/professional-interests/health/hlth-behavior-finance-sub.aspx>.

One outcome of the Affordable Care Act (ACA) is the growing popularity of narrow networks among insurance plans. While the benefits of narrow networks from the plans’ viewpoint are often discussed, much remains unknown from the consumer’s viewpoint. “Measuring Consumer Valuation of Limited Provider Networks,” by Keith Marzilli Ericson and Amanda Starc, describes an attempt to place an econometric value on consumers’ preferences between broad and narrow networks.

OUTLINE OF PAPER

The authors examine data from the Massachusetts All-Payer Claims Database (APCD) and the Massachusetts Health Insurance Exchange (HIX) Commonwealth Choice program to determine the network value based on consumer selection and price data. The focus of their paper centers on available plans in the Boston area from November 2009 through February 2010. They construct network breadth measures based on several criteria, including percent of hospitals in network, percent of hospital admissions that would be covered by a network, and percentage of Academic Medical Center admissions covered by a network. The first of these is a simple measure that can be determined without access to claims data; available health plan networks during the time period studied included from 37.4 to 98.1 percent of hospitals in the state. The admissions-based statistics are highly correlated with the raw percentage of hospitals in-network, as one might expect.

The authors go on to calculate a demand-based measure of network coverage, using data for six distinct diagnosis categories, to determine an average “consumer surplus” measure for each network. This model will be less familiar to actuaries, as it relies on methods from the hospital merger literature. It also relies



heavily on detailed individual membership and claims data from the APCD.

Using each of the network breadth measures, combined with plan premium data, the authors model a utility function, varying by age, which allows them to estimate consumers’ comparative “willingness-to-pay” (WTP) for various networks. The authors conclude that the network design is a predictor of consumer selection. Consumers are willing to pay substantially higher premiums for broader networks, with the older population placing even more value on broader networks. Additionally, they show that consumers seem to value inclusion of “star” brand-name hospitals (in this case, Massachusetts General Hospital) in a health plan network.

ACTUARIAL OBSERVATIONS

To health actuaries, these conclusions are hardly news; the precise analytical quantification of consumer WTP using the authors’ predictive analytical techniques may be of interest. Perhaps further, such a study of actual consumer choices could inform health plans’ hospital negotiation strategies in subsequent years.

Understanding the consumers’ preferences, motivation and willingness to pay can assist actuaries in pricing and designing products with various network configurations, mindful of the health insurance consumer. In particular, it would be useful to study whether consumers’ revealed financial preferences parallel differences in expected claim costs between broad and nar-

row networks. While the paper’s analysis was driven by hospital networks, similar approaches may provide insight into physician group preferences of consumers in a given area. Another avenue for further research might include studying whether consumer preferences vary by income level. The data in this study was from a population who can afford choice; different preferences may become apparent in the subsidized individual ACA plan marketplace, even within the same geography. It would also be interesting to determine if the paper’s results would be replicated in other geographies, where the practice patterns and/or degree of medical management are different than in Boston.

Although the paper’s analysis is based on individual health insurance product offerings, its methods and conclusions may be useful in other markets. For instance, quantifiable understanding of which providers in a geography are most valued by employees may be applicable in plan design for large self-funded employers, such as using WTP analysis in setting employee contribution levels for various plan options.

Other actuarial questions prompted by this research paper might include:

- How does preference for network breadth interact with preferences for benefit design richness?
- Does variation in unit cost completely capture pricing variation between broad/narrow products?
- What (if any) impact does a broad network have on inducing utilization? Similarly, what (if any) impact does a narrow network have on reducing utilization?
- How does member preference and WTP for network breadth impact attribution and measurement for provider risk-sharing arrangements?

In conclusion, the article introduces actuaries to an analytical tool that demonstrates and confirms certain things that actuaries have observed empirically, and provides food for thought to stimulate further research. The specific methodology applied in this paper may not always be the right tool for the job. The key takeaway for actuaries is that we must be open to new methods to study demonstrated consumer choice behavior, in order to develop and support practical applications within health insurance markets. ■



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ENDNOTE

¹ Keith Marzilli Ericson and Amanda Starc, “Measuring Consumer Valuation of Limited Provider Networks,” *American Economic Review: Papers and Proceedings*, 2015, 105(5):115–119.

Working with the CDC on Preventive Care as a Public Health Initiative

By Rebecca Owen

Members from the Society of Actuaries (SOA) participated in a convening of state Medicaid programs in February as part of the Centers for Disease Control and Prevention's (CDC's) 6|18 Initiative. The CDC initiative targets six common and costly health conditions and 18 proven specific interventions. I attended the meetings in Atlanta, along with SOA members Greg Fann, FSA, MAAA, principal at Mercer; Jeremy Palmer, FSA, MAAA, principal and consulting actuary at Milliman; and Jared Simons, ASA, MAAA, senior associate at Mercer. The meeting focused on evidence-based interventions related to controlling asthma, reducing tobacco use and preventing unintended pregnancies. The CDC and the meeting attendees discussed barriers to implementation, strategies to support interventions, and opportunities to engage with health care providers for implementation.

The meeting included state Medicaid program representatives from Colorado, Massachusetts, Louisiana, Minnesota, New York, Rhode Island, Michigan and South Carolina. Some states, such as Colorado and Massachusetts, presented the results of long-standing programs to prevent pregnancies or manage asthma. Other attendees were looking for guidance in formulating programs. There was strong guidance and support from the CDC on the methods that demonstrated success.

It was gratifying to be included in the group of researchers, policymakers, clinicians, advocates and other public health experts as they worked collaboratively to address these public health concerns. The meeting was clearly and definitely focused on the public health benefits of reducing tobacco use, controlling asthma, and, most particularly, preventing pregnancies, and there were several instances when the actuarial group had a chance to offer contributions that were constructive and insightful. The CDC has developed a model that estimates the medical cost savings from removing barriers and increasing access to long-acting reversible contraceptives (LARCs). The model, which will be available publicly, estimated the number of avoided pregnancies and the costs that would be avoided due to the widespread use of LARCs. The actuaries discussed how the costs and benefits of this intervention would accrue to the different stakeholders in the system.

Another area where actuarial input was helpful was understanding how Medicaid drug rebates would be helpful in reducing the cost of supplying preventive medications as a part of any intervention program.

In the future, SOA staff and volunteers will be included in other meetings convened to formalize the specific and actual programs that states adopt to address the 6|18 topics in Medicaid programs, as well as demonstration projects with commercial payers. Actuarial interactions will vary from participating in discussions on existing program designs to joint research work with CDC scientists to develop models for estimating the value of these interventions.

Actuaries who are interested in being involved in public service opportunities such as this are encouraged to contact Joe Wurzburger at the SOA.

The following information about the 6|18 initiative is quoted from the CDC site.

THE 6|18 INITIATIVE: ACCELERATING EVIDENCE INTO ACTION

CDC is partnering with health care purchasers, payers, and providers to improve health and control health care costs. CDC provides these partners with rigorous evidence about high-burden health conditions and associated interventions to inform their decisions to have the greatest health and cost impact. This initiative offers proven interventions that prevent chronic and infectious diseases by increasing their coverage, access, utilization and quality. Additionally, it aligns evidence-based preventive practices with emerging value-based payment and delivery models.

By 6|18, we mean that we are targeting **six** common and costly health conditions—tobacco use, high blood pressure, health care-associated infections, asthma, unintended pregnancies, and diabetes—and **18** proven specific interventions that formed the starting point of discussions with purchasers, payers, and providers.

The interventions:

Tobacco Use

Expand access to evidence-based tobacco cessation treatments including individual, group, and telephone counseling and all Food and Drug Administration (FDA)-approved cessation medications (in accordance with the 2008 Public Health Service Clinical Practice Guidelines).

Remove barriers that impede access to covered cessation treatments, such as cost sharing and prior authorization.

Promote increased utilization of covered treatment benefits by tobacco users.

High Blood Pressure

Promote strategies that improve access and adherence to antihypertensive and lipid-lowering medications.

Promote a team-based approach to controlling hypertension (e.g., physician, pharmacist, community health worker, and patient teams).

Provide access to devices for self-measured blood pressure monitoring (SMBP) for home use and create individual, provider, and health-system incentives for compliance and meeting goals.

Prevent Healthcare-Associated Infections

Require antibiotic stewardship programs in all hospitals and skilled nursing facilities.

Prevent hemodialysis-related infections through immediate coverage for insertion of permanent dialysis ports.

Control Asthma

Promote evidence-based medical management following the 2007 National Asthma Education and Prevention Program guidelines (NAEPP Guidelines).

Promote strategies that improve access and adherence to asthma medications and devices.

Expand access to intensive self-management education for individuals whose asthma is not well-controlled with the 2007 National Asthma Education and Prevention Program (the NAEPP Guidelines) based medical management alone.

Expand access to home visits by licensed professionals or qualified lay health workers to improve self-management education

and reduce home asthma triggers for individuals whose asthma is not well-controlled with the 2007 National Asthma Education and Prevention Program (NAEPP Guidelines) based medical management and intensive self-management education.

Prevent Unintended Pregnancy

Reimburse providers for the full range of contraceptive services (e.g., screening for pregnancy intention; tiered contraception counseling; insertion, removal, replacement, or reinsertion of long-acting reversible contraceptives [LARC] or other contraceptive devices, and follow-up) for women of childbearing age.

Reimburse providers or provider systems for the actual cost of LARC or other contraceptive devices in order to provide the full range of contraceptive methods.

Reimburse for immediate postpartum insertion of long-acting reversible contraceptives (LARC) by unbundling payment for LARC from other postpartum services.

Remove administrative and logistical barriers to LARC contraception (e.g., remove pre-approval requirement or step therapy restriction and manage high acquisition and stocking costs).

Control and Prevent Diabetes

Expand access to the National Diabetes Prevention Program (the National DPP), a lifestyle change program for preventing type 2 diabetes.

Promote screening for abnormal blood glucose in those who are overweight or obese as part of a cardiovascular risk assessment. ■



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Articles in the North American Actuarial Journal of Interest to Health Actuaries

By Ian Duncan

There is only one article in Volume 20, No. 1 (March 2016) of direct interest to health actuaries, “Testing Alternative Regression Frameworks for Predictive Modeling of Health Care Costs.” However, given the Society of Actuaries’ (SOAs) current focus on predictive analytics, and the fact that I am one of the authors, this article is a must-read for all health actuaries! In addition, I am providing the abstracts to two other articles that, although not directly health care related, may nevertheless prove interesting, particularly to those health actuaries (such as those specializing in long-term care or retiree medical valuations) for whom longevity and survivorship are issues.

TESTING ALTERNATIVE REGRESSION FRAMEWORKS FOR PREDICTIVE MODELING OF HEALTH CARE COSTS

I. Duncan, M. Loginov and M. Ludkovski

Predictive models of health care costs have become mainstream in much health care actuarial work. The Affordable Care Act requires the use of predictive modeling-based risk-adjuster models to transfer revenue between different health exchange participants. Although the predictive accuracy of these models has been investigated in a number of studies, the accuracy and use of models for applications other than risk adjustment have not been the subject of much investigation. We investigate predictive modeling of future health care costs using several statistical techniques. Our analysis was performed based on a dataset of 30,000 insureds containing claims information from two contiguous years. The dataset contains more than 100 covariates for each insured, including detailed breakdown of past costs and causes encoded via coexisting condition flags. We discuss statistical models for the relationship between next-year costs and medical and cost information to predict the mean and quantiles of future cost, ranking risks and identifying most predictive covariates. A comparison of multiple models is presented, including (in addition to the traditional linear regression model underlying risk adjusters) Lasso GLM, multivariate adaptive regression splines, random forests, decision trees and boosted trees. A detailed performance analysis shows that the traditional regression approach does not perform well and that more accurate models are possible.

FORECASTING LONGEVITY GAINS FOR A POPULATION WITH SHORT TIME SERIES USING A STRUCTURAL SUTSE MODEL: AN APPLICATION TO BRAZILIAN ANNUITY PLANS

César Neves, Cristiano Fernandes and Álvaro Veiga

In this article, a multivariate structural time series model with common stochastic trends is proposed to forecast longevity gains of a population with a short time series of observed mortality rates, using the information of a related population for which longer mortality time series exist. The state space model proposed here makes use of the seemingly unrelated time series equation (SUTSE) and applies the concepts of related series and common trends to construct a proper model to predict the future mortality rates of a population with little available information. This common trends approach works by assuming the two populations’ mortality rates are affected by common factors. Further, we show how this model can be used by insurers and pension funds to forecast mortality rates of policyholders and beneficiaries. We apply the proposed model to Brazilian annuity plans where life expectancies and their temporal evolution are predicted using the forecast longevity gains. Finally, to demonstrate how the model can be used in actuarial practice, the best estimate of the liabilities and the capital based on underwriting risk are estimated by means of Monte Carlo simulation. The idiosyncratic risk effect in the process of calculating an amount of underwriting capital is also illustrated using that simulation.

FAMILIAL RISK FOR EXCEPTIONAL LONGEVITY

Paola Sebastiani, Stacy L. Andersen, Avery I. McIntosh, Lisa Nussbaum, Meredith D. Stevenson, Leslie Pierce, Samantha Xia, Kelly Salance and Thomas T. Perls

One of the most glaring deficiencies in the current assessment of mortality risk is the lack of information concerning the impact of familial longevity. In this article we update estimates of sibling relative risk of living to extreme ages using data from more than 1,700 sibships, and we begin to examine the trend for heritability for different birth-year cohorts. We also build a network model that can be used to compute the increased chance for exceptional longevity of a subject, conditional on his or her family history of longevity. The network includes familial longevity from three generations and can be used to understand the effects of paternal and maternal longevity on an individual’s chance to live to an extreme age. ■



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Level Funding: An Alternative to the ACA for Small Groups

By Joe Slater

Under the Affordable Care Act (ACA), groups with 50 or fewer employees will eventually be subject to the ACA's modified community rating rules. While some groups will see lower premiums than they would have without the ACA, others will see significant premium increases. Many of the latter group types are motivated to avoid the ACA for as long as they can, as evidenced by the large number of small groups that chose to keep their transitional coverage at renewal in 2014. With the availability of transitional relief soon to expire, what will these groups do in the long term? Will they purchase ACA-compliant coverage, drop coverage, or maybe find some way to be defined as a large group? Another possibility is for these groups to enter into a self-funding arrangement of some sort.

Though self-funding has historically only been a realistic option for groups with at least a few hundred employees, the premium disruption and potential loss of business caused by the ACA has incentivized insurance carriers and third-party administrators (TPAs) to develop an alternative self-funded product offering, sometimes called "Level Funding," for small groups. This article will provide an introduction to the potentially significant market these products serve, along with an understanding of how the products are designed and priced, why these products have yet to gain significant market share, regulatory and market considerations associated with the products, and the potential risks involved with the products for both insurers and small groups.

SELF-FUNDING BASICS

Self-funding refers to a spectrum of funding methods in which the group bears a significant portion of the financial risk of its members' health coverage rather than having a third party—the insurance company or health plan—bear the risk. Self-funding can take multiple forms including administrative services only (ASO), ASO with stop loss, minimum premium arrangements, and so on, in addition to coverage administered by a TPA with or without stop-loss arrangements.

There are several advantages to groups entering into a self-funding arrangement, such as:

- The group will avoid premium taxes, state health coverage mandates and certain ACA-related fees;

- The group will directly benefit from its favorable claims experience; and
- The group will forgo paying insurance company risk charges.

Disadvantages of self-funding for groups include:

- Less predictable cash flows
- The bearing of financial responsibility for unfavorable claims experience
- The need for the group to obtain and pay for the advice of insurance professionals to help manage their plan
- The potential need for the group to buy stop-loss insurance

For small groups, the disadvantages of self-funding have typically outweighed the advantages, and thus self-funding has historically mostly been the domain of larger groups. However, self-funding may become a much more viable option for a certain segment of the small group market in the near future. The ACA's small group community rating rules will cause significantly unfavorable rate increases for many small groups, often 50 percent or more. Premium disruption of this magnitude may be unacceptable for many of these groups, and those groups will investigate potential alternatives to the ACA including a self-funding option called *level funding*.

LEVEL FUNDING BASICS

Level funding is an ASO product with integrated stop-loss coverage offered by insurance companies, brokers and TPAs. Level funding products are designed to allow the group to benefit from the advantages of self-funding, while limiting the disadvantages. As the name implies, groups with a level funding product will have fixed or level monthly costs associated with the funding of their members' health coverage. For lower-risk groups, the monthly premium equivalents associated with a level funding product are often lower, sometimes much lower, than the premium the group would pay for the same benefits under the ACA's community rating rules.

Level funding products typically have five cost components:

- An ASO fee to cover the administrative and selling expenses associated with a group's health plan
- Aggregate stop-loss coverage
- Specific stop-loss coverage
- A paid claims fund held by the level funding issuer to cover the costs of the group's expected claims costs (non-stop loss) over the current projection period
- An incurred but not reported (i.e., IBNR) fund to cover claims incurred during the projection period, but paid afterward

A sixth, unofficial component of a level funding product's cost is an incurred claims cost projection. The incurred claims cost

projection is used to develop several of a level funding product’s official cost components and is necessary to truly assign financial responsibility for the group’s expected costs.

The level funding component that allows the group to pay fixed monthly payments is the paid claims fund. The paid claims fund is the product of the aggregate stop-loss (ASL) corridor and the group’s projected paid claims below any specific stop-loss (SSL) deductible. The paid claims fund pre-funds the group’s maximum liability under a level funding product, as actual paid claims over the ASL corridor are covered by the ASL insurance coverage. If the group’s actual paid claims for the coverage period are below the ASL corridor, the group will receive some portion of the paid claims fund’s surplus as a refund. The refund allows the group to benefit from its own favorable claims experience, and thus level funding is considered a self-funded product.

A group’s projected paid claims fund implicitly includes an expected surplus equivalent to the group’s projected paid claims below the SSL deductible times the ASL corridor minus 100 percent. Table 1 shows three scenarios that illustrate the mechanics of a typical level funding product’s paid claims fund. The level funding product specifics for the group are identical for the group under all three scenarios, with the only variable item being the percentage of expected cost that the group’s actual paid claims below the SSL deductible are (either 100 percent, 130 percent or 70 percent in the three scenarios).

Table 1
Paid Claims Fund Surplus Determination

| | Scenario 1 | Scenario 2 | Scenario 3 |
|---|------------|------------|------------|
| Projected paid claims cost PMPM below SSL ded | \$176.91 | \$176.91 | \$176.91 |
| ASL corridor | 120% | 120% | 120% |
| Paid claims fund maximum liability PMPM | \$212.29 | \$212.29 | \$212.29 |
| Actual paid claims cost PMPM below SSL ded | \$176.91 | \$229.98 | \$123.84 |
| Actual paid claims cost as a % of expected | 100% | 130% | 70% |
| Actual paid claims fund surplus PMPM | \$35.38 | \$0.00 | \$88.46 |

LEVEL FUNDING AND ACA PRICING COMPARISON

The primary appeal of a level funding product for some small groups is price. As mentioned previously, lower-risk small groups can expect to pay level funding premium equivalents that are lower than the group’s ACA premium for the same coverage. The reason is that the ACA’s community rating rules result in premiums for these groups that contain a “subsidy” used to offset the claims costs of more costly groups in the ACA small

group market. The ACA’s community rating rules provide relatively few pricing levers to differentiate the cost of small groups and explicitly restrict pricing small groups based on risk. Level funding products do not have these restrictions, as stop-loss pricing is not subject to the ACA’s community rating rules, and the rest of the group’s claims costs are contractually the group’s responsibility.

For illustrative purposes, let’s look at two hypothetical groups with 45 subscribers looking for the exact same small group coverage (i.e., they have the same benefit plan) with the same insurance carrier. Both of these groups took advantage of small group transitional relief to the fullest extent allowable in their state and are thus facing the prospects of the ACA’s community rating rules upon renewal on Jan. 1, 2018. The two groups are expected to be polar opposites in terms of expected claims costs in future years. The first group, Living Well Graphic Arts, is a commercial art and graphic design firm that uses the latest software to help its clients (mostly health food stores, physical trainers, fitness advocacy groups, etc.) develop marketing materials. The current average age of Living Well’s enrollees is 23.8 years and they have very low expected claims costs in the coverage period. The second group is Classic Cabs, a taxi-cab company whose enrollees have an average age of 44.6 years. While Living Well’s employees and dependents are all fitness and healthy eating enthusiasts, 20 percent of Classic Cabs’ members have Type 2 diabetes and 55 percent are self-reported cigar smokers.

Living Well and Classic Cabs’ insurance company uses a rating manual to help develop small group ACA, small group transitional and level funding rates. The rating manual also develops a group-specific projected incurred claims cost that includes a proprietary method to develop a risk adjustment factor to the group’s manual claims projection that is believed to be very accurate. Table 2 provides the insurer’s projected incurred claims costs for Living Well and Classic Cabs for the plan year beginning January 2017.

Table 2
2017 Projected Incurred Claims Cost for Living Well and Classic Cabs

| | Living Well | Classic Cabs |
|--|-----------------|-----------------|
| Base projected incurred claims cost (Med + RX) | \$280.50 | \$280.50 |
| Average demo factor | 0.824 | 1.893 |
| Industry factor | 0.900 | 1.100 |
| Area factor | 1.000 | 1.000 |
| Risk adjustment factor | 0.850 | 1.150 |
| Group-specific projected incurred claims cost | \$176.91 | \$671.68 |

Living Well's projected claims costs reflect the group's favorable demographics, industry and risk profile, while Classic Cab's reflects the opposite.

Tables 3, 4 and 5 provide the rate development for both groups' small group ACA, small group transitional and level funding monthly premiums or premium equivalents for the plan year beginning in January 2017.

Table 3
Living Well and Classic Cabs' Small Group ACA Rate Development as of Jan. 1, 2017

| | Living Well | Classic Cabs |
|------------------------------|-----------------|-----------------|
| Base premium rate (Med + RX) | \$386.54 | \$386.54 |
| Average age factor | 0.955 | 1.652 |
| Average area factor | 1.000 | 1.000 |
| Average tobacco user factor | 1.000 | 1.055 |
| 2017 SG ACA premium | \$368.98 | \$673.67 |

The small group ACA premiums for both of these groups do not consider any group-specific claims cost projection, as any such projection using the insurer's small group claims projection methodology would be based on non-allowable rating factors (including industry and demographic factors that consider gender and are not capped at a 3:1 ratio) and group-specific morbidity, which is forbidden under health care reform.

Table 4
Living Well and Classic Cabs' Small Group Transitional Rate Development as of Jan. 1, 2017

| | Living Well | Classic Cabs |
|--|-----------------|-----------------|
| Base net premium rate (Med + RX) | \$280.50 | \$280.50 |
| Average age factor | 0.824 | 1.893 |
| Industry factor | 0.900 | 1.100 |
| Area factor | 1.000 | 1.000 |
| Group-specific net premium | \$208.13 | \$584.07 |
| Admin, selling, tax, and risk expense | \$60.12 | \$90.60 |
| Group-specific gross premium (prior to risk adj) | \$268.25 | \$674.67 |
| Group-specific risk adjustment factor | 0.900 | 1.100 |
| 2017 Small group transitional premium | \$241.43 | \$742.14 |

The small group transitional premiums for both of these groups start with an incurred claims projection that is very similar to the group-specific projections shown in Table 2. The one exception is that the risk adjustment factor for each group is applied to the

Lower-risk small groups can expect to pay level funding premium equivalents that are lower than the group's ACA premium for the same coverage.

premium rather than in the incurred claims projection. This is consistent with the small group reform rules that existed in the state prior to the passing of the ACA in 2010. The state limits risk adjustment factors to +/-10 percent.

Table 5
Living Well and Classic Cabs' Level Funding Rate Development as of Jan. 1, 2017

| | Living Well | Classic Cabs |
|--|-----------------|-----------------|
| Group-specific projected incurred claims cost | \$176.91 | \$671.68 |
| ASO fee | \$44.38 | \$44.38 |
| Specific stop loss | \$86.25 | \$163.28 |
| Aggregate stop loss | \$14.63 | \$60.88 |
| Paid claims fund | \$124.47 | \$528.89 |
| Reserve fund | \$19.15 | \$62.22 |
| ACA fees | \$2.45 | \$2.45 |
| 2017 Total level funding premium equivalent | \$291.32 | \$862.10 |

The total level funding premium equivalents for both of these groups are based on the insurance company's best estimate of a group-specific risk-rated incurred claims projection. The total level funding premium equivalent represents the maximum either group will pay on a per member per month (PMPM) basis for their upcoming plan years. As mentioned previously, if either group's actual paid claims costs exceed the paid claims fund, neither group will pay the insurance company any additional fees. However, if either group's actual paid claims costs are less than the paid claims fund, the group will receive a refund. The level funding premium equivalents are priced based on stop-loss coverage assuming a \$20,000 SSL deductible and 120 percent ASL corridor.

Tables 6 and 7 compare the small group ACA, small group transitional, and level funding PMPM premium or premium equivalents for Living Well and Classic Cabs for the same coverage for their plan years beginning Jan. 1, 2017.

Table 6
Comparison of Living Well’s 2017 Small Group ACA, Small Group Transitional and Level Funding Premiums

| | PMPM Rate | 2017 Rate Increase | 2017 Rate Rank (Smallest to Largest) |
|----------------------|-----------|--------------------|--------------------------------------|
| 2016 SG transitional | \$223.02 | | |
| 2017 SG transitional | \$241.43 | 8.3% | 1 |
| 2017 SG ACA FI | \$368.98 | 65.4% | 3 |
| 2017 level funding | \$291.32 | 30.6% | 2 |

It is in Living Well’s best interest to retain its small group transitional plan for an additional plan year beginning Jan. 1, 2017. If transitional relief is not available (e.g., at the time of Living Well’s 2018 renewal), level funding will probably offer the group its most affordable coverage option.

Table 7
Comparison of Classic Cabs’ 2017 Small Group ACA, Small Group Transitional and Level Funding Premiums

| | PMPM Rate | 2017 Rate Increase | 2017 Rate Rank (Smallest to Largest) |
|----------------------|-----------|--------------------|--------------------------------------|
| 2016 SG transitional | \$679.00 | | |
| 2017 SG transitional | \$742.14 | 9.3% | 2 |
| 2017 SG ACA FI | \$673.67 | -0.8% | 1 |
| 2017 level funding | \$862.10 | 27.0% | 3 |

It is in Classic Cabs’ best interest to migrate to small group ACA coverage as soon as it can. Regardless of the options available to Classic Cabs, a level funding plan will probably represent the most expensive choice.

CONSIDERATIONS WITH OFFERING A LEVEL FUNDING PRODUCT

Ideally, insurance carriers would want the better-risk small groups to migrate to their small group ACA blocks. This is because these better-risk groups are very profitable to insurers under the ACA’s community rating rule. Additionally, the migration of better-risk groups to small group ACA plans will help keep carriers’ small group ACA rates relatively low while strengthening the long-term prospects of this block of business. For these reasons, an insurance carrier would probably not want to offer a level funding plan to a good risk group that would choose an ACA plan otherwise because doing so could lead to the potential cannibalization of the insurer’s small group ACA block.

On the other hand, most groups will eventually make choices that are in their long-term self-interest. The same sort of economic self-interest also applies to insurance companies. Even-

tually, good-risk small groups will seek alternatives to the ACA’s small group community rating rules, and one or more insurance carriers will offer alternatives to those groups including level-funding-type products. While most insurance carriers have yet to have much success with their offering of level funding products, it does not mean that level funding products will never capture a significant share of the small group health coverage market. This is because level funding does not yet offer good-risk groups with their lowest-cost option. As demonstrated in the earlier illustrative pricing comparison, while transitional relief is available to small groups, small group transitional plans will offer the lowest-cost option for these groups. However, once transitional relief goes away, level funding products become a very viable option for better-risk small groups. For this reason, it is in an insurance carrier’s best economic interests to offer level funding products, because if it doesn’t and its competitors do, the carrier risks losing its better-risk groups to its competition.

Level funding products are not necessarily easy to price, sell and administer. For example, it is vital that insurance carriers offering a level funding product develop the resources and skills to properly project the expected claims costs of individual small groups. Obviously, this is not an easy task, but it is exactly what insurers did prior to the ACA and various small group reform laws in multiple states. Risk rating small groups requires the use of small group underwriting techniques, such as medical underwriting (or medical applications), and other risk assessment tools, such as risk scoring, and detailed examining of current and/or potential high claimants. One thing that may make the process simpler is that better-risk groups are more likely to share the information necessary to receive the best price. Insurers can help promote this tendency by offering groups automatic “discounts” for submitting the information necessary to properly rate the group.

Another issue with pricing level funding plans is offering stop-loss coverage. A significant number of insurers do not currently offer stop-loss coverage and/or have very little experience offering stop-loss coverage to smaller groups. For these insurers it may be necessary to develop a stop-loss rating model and hire actuaries and underwriters familiar with pricing stop-loss insurance. This is especially important since the stop-loss coverage needed to cover small groups tends to be very rich (i.e., low specific deductibles and low aggregate corridors). Furthermore, many states have adopted the National Association of Insurance Commissioners’ (NAIC’s) model stop-loss law, which suggests setting minimum SSL deductibles (e.g., \$30,000) and ASL corridors (e.g., 120 percent). Aggregate stop-loss restrictions can be more nuanced than the application of aggregate corridors, so it is necessary that an insurance company retain legal expertise to understand the stop-loss regulations in its specific state(s) and develop stop-loss contracts appropriately. Finally, the selling of stop-loss policies, which includes level funding products, often



requires the filing of rates and forms with the department of insurance in many states.

Level funding products should be designed, administered and priced to closely resemble the fully insured products that they are replacing. For example, insurance carriers should offer the same or similar plan designs that they currently offer to their small group transitional block. Additionally, it might be advisable to build in the cost of any ACA or state level fee assessments into the ASO fee since these groups are used to paying an all-in premium and are not expecting to have to write a check to the state or federal government. Insurers that offer level funding products should also price the product in such a way that the expected profit is similar to what they would have received from a fully insured group than from a traditional (i.e., larger) self-funding group. Profit (or contributions to surplus or margins) can be built into every component of level funding cost. Specifically, it might be wise for an insurer to retain a portion of the paid claims surplus as profit, as this will lower the upfront cost of a level funding product and signal to the group that the insurer also has “skin in the game.”

Most of the small groups that would potentially benefit from a level funding product will not have much, if any, familiarity with self-funding or stop loss. It is, therefore, important that insurers train their sales staff and develop marketing efforts to help small groups understand level funding. These efforts should also include meetings with the brokers that represent these groups, as the brokers need to become experts and proponents of level funding for the good-risk groups that will benefit from the product. Finally, it makes a great deal of sense for insurance carriers to develop a target group list to determine the specific transitional relief small groups to which it plans to offer a level funding product. The target group list can be used to show an

ACA versus level funding rate comparison for group renewals on or after Jan. 1, 2018.

THE FUTURE OF SMALL GROUPS AND SELF-FUNDING

There is a real possibility that a significant percentage of small groups will be in a level funding product after 2017. Transitional relief is a better option for groups while available, but better-risk groups in insurers’ small group transitional blocks will most likely be interested in a level funding product that provides the same or similar coverage at a significantly lower price. The market for level funding is tied to the groups expected to migrate to the ACA market. The Protecting Affordable Coverage for Employees (PACE) Act, which removed the requirement that groups with 51 to 99 enrollees migrate to small group ACA plans beginning in 2016, did significantly reduce the potential size of the level funding market, but it did not eliminate it. Assuming that the ACA is not thrown out altogether and transitional relief ends as expected, the level funding market should have a meaningful size beginning in 2018.

Another question is how regulators and lawmakers will react to a potentially large level funding market. Earlier in this paper I mentioned the NAIC model stop-loss law. In response to the emergence of level funding products for small groups, more states could look to adopt the model law or strengthen existing stop-loss laws to make level funding less palatable for small groups. Additionally, it is entirely possible that some states, and maybe the federal government, might take direct steps to outlaw self-funding options for smaller groups, as New York has previously done for groups with fewer than 50 subscribers. As of this writing, I am not aware of any efforts to ban level funding products for small groups in any additional state or federal governments.

As mentioned previously, some insurance carriers would prefer to have all of their small group transitional business migrate to their small group ACA blocks. While this would be ideal for insurers with established small group business, it is not reasonable to expect all carriers to take this route. A large number of national insurance carriers have developed, or are currently developing, a level funding product. If you have one or more national insurers in your market, you can expect that a level funding product will be offered to your better-risk transitional small groups in 2018. Even if you don’t, a level funding product will likely be offered sooner or later to your better-risk ACA groups. Either way, it is prudent that health insurance carriers develop their own level funding product in 2016 and 2017 to be sure that they are ready to offer it in earnest in 2018. ■



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Examining the Evidence: A Reader Response to “Blood, Guts, ASOPs and Delivery System Reform”

By David Ogden

For this publication’s installment of Examining the Evidence, Dave Ogden has provided a response to Tia Goss Sawbney and Bruce Pyenson’s article in the December 2015 issue of Health Watch.

I read the article “Examining the Evidence, Blood, Guts, ASOPs and Delivery System Reform” with interest. The subject is important, in that all actuaries need to understand the context of the situation they are analyzing, the sources of the data and assumptions, and ensure that the data, assumptions and results are appropriate. The authors’ issue appears to be that actuaries do not always put enough effort into understanding the assumptions and issues for an assignment. I suspect they are correct, but I do not think the Actuarial Standards of Practice (ASOPs) are really to blame. I think the authors misread the ASOPs (or did not read enough of them) and, thus, do not realize what actuaries are required to do in these situations.

The authors quote ASOP 41 correctly, but do not mention another section of ASOP 41 that supports their position. Section 3.4.4, “Responsibility for Assumptions and Methods,” lays out an actuary’s options and responsibilities when using assumptions. A paraphrase of this section follows:

1. The party responsible for each material method and assumption must be specified.
2. The actuary is assumed responsible for each assumption or method unless the communication specifies otherwise.
3. If the assumption or method is required by law, then the communication must say so.
4. If another party is responsible for the assumption or method, the actuary’s choices are as follows:
 - a. If the assumption or method does not significantly conflict with the actuary’s judgment, then the communication can be silent on the matter.
 - b. If the assumption or method significantly conflicts with the actuary’s judgment, the actuary must state so, including information cited in section 4.3 of the ASOP.
 - c. If the actuary is not able to judge the reasonableness of the assumption or method, the actuary must state so, including information cited in section 4.3 of the ASOP
 - d. Section 4.3 requires the actuary to:

- i. Indicate the party responsible for the method or assumption
- ii. The reason that party and not the actuary was responsible
- iii. Either
 1. The method or assumption conflicts with the actuary’s judgment, or
 2. The actuary is unable to judge the reasonableness of the method or assumption.

ASOP 41 does not quite literally require an actuary to do what the authors suggest, but it strongly indicates so. An actuary is not “off the hook” by simply saying they took the assumption from someone else. The actuary cannot “disavow responsibility for assessing reasonableness” (authors’ words) without indicating that they are unable to assess an assumption. A follow-up question in that case would be why the actuary is using an assumption that they cannot assess. There may be a good reason but it appears the actuary should provide an explanation.

ASOP 23 includes other guidance that is strongly related to the issue of the article. ASOP 23 covers data, not assumptions. However, ASOP 23 section 2.4 states: “Assumptions are not data, but data are commonly used in the development of actuarial assumptions.”

Further, ASOP 23 section 3.5 discusses the need to review data. To paraphrase Section 3.5:

1. An actuary should review data used for reasonableness and consistency.
2. The actuary need not review the data if the actuary believes that a review is not necessary or practical.
3. The actuary should consider what review, checking and auditing has already been done on the data, as well as the nature of the assignment and any existing constraints.

If the actuary does not perform a review, the actuary should disclose they did not do a review and disclose any resulting limitations on the work product.

So, once again, the ASOP does not literally require what the authors suggest, but it certainly implies such steps.

I think the article would have been stronger if it pointed out the actuary’s responsibility to do what they suggest, rather than to tell actuaries that ASOP 41 does not require them to be responsible for assumptions selected by other parties. ■



David Ogden, FSA, MAAA, retired in 2014 after 35 years with Milliman.



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