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Health Watch

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To join the section, SOA members and non-members can locate a membership form on the Health webpage at <https://www.soa.org/sections/health/health-landing/>.

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Letter From the Editor

By Marilyn McGaffin

Happy summer! This issue coincides with the Health Spring Meeting, which I hope many of you are attending. Both this issue and the Health Spring Meeting have taken many hours to put together. I would like to thank all the volunteers for their help in bringing continuing education to all of us in many formats. This issue of *Health Watch* will be the second digital version, which I find to be quite exciting.

This issue opens with two articles regarding the Affordable Care Act (ACA). The piece from Kristi Bohn covers the history of the ACA and is a summary of a study note that will be part of the fellowship exams. Greg Fann brings us up to date with the current status of ACA litigation. He explains the reasoning behind the constitutionality decisions of the court. It is quite intriguing and does make one realize the importance of actuaries' opinions in forming health care legislation.

This issue's interview with a leader in our community is with Paul Spitalnic, chief actuary for the Centers for Medicare & Medicaid Services. He is responsible for evaluating the financial status of the Medicare trust funds, projecting program costs for the president's budget, estimating national health expenditures, calculating program rates and other actuarial functions related to the Medicare and Medicaid programs. We should pay close attention to the lessons he has learned in, and the characteristics he believes are important to, his role.

The next three articles focus on Medicare. The first of these is an article regarding the effects of the payment reforms dictated by the Medicare Access and CHIP Reauthorization Act (MACRA) of 2015 legislation. Julie Witt and Jim Dolstad summarize the Society of Actuaries (SOA) project oversight group's work. This is followed by an article regarding Part D settlements, which is timely since bids have just been submitted. Kate Herbig gives us a review of the four components of the Part D settlement arrangements. Pedro Alcocer, Robert Eaton and Pamela Laboy discuss the 2019 market landscape and the challenges ahead regarding long-term services and support in the Medicare Advantage marketplace.



The last two articles touch upon very current topics within actuarial circles—provider risk management and blockchain technology. Tom Messer points out that risk sharing with provider entities without successful medical management can only raise premiums. He outlines six considerations actuaries should take into account when entering into a risk-sharing agreement with a provider. The sooner actuaries take these considerations into pricing, the sooner the risk transfer can be accomplished in an equitable manner. Rajesh Munjuluri and Puneet Budhiraja describe what blockchain technology is. They also outline the potential blockchain uses for health care. For those of us to whom this technology is new, the article is written in a very understandable way.

I have been overwhelmed by the generosity of those involved with making this issue of *Health Watch* happen. Once again, I thank you. I do hope our readers will find these articles to be of value. ■



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Chairperson's Corner

By Karen Shelton

"The real gift of gratitude is that the more grateful you are, the more present you become."

—Robert Holden

I'll be honest, I was struggling with what to write for this issue's Chairperson's Corner. To get some inspiration, I perused prior issues of *Health Watch*. As I was poring over the articles, I found myself full of gratitude to be following in the steps of prior Health Section Council chairpersons like Andie Christopherson, Elaine Corrough, Brian Pauley and, most recently, Sarah Osborne. Like my predecessors, I'm keenly aware of what a privilege it is to lead the 12-member council, and I'm amazed at all that we do, year after year.

Many of you may be reading this article while at the Health Meeting in Phoenix. Did you know that the content is largely coordinated by members of the Health Section Council? Rick Pawelski and Deana Bell, the meeting chair and vice chairperson,

have combed through session proposals to find the right breadth and depth of content, landed fantastic keynote speakers and worked the logistics for the various section breakfasts.

Other ongoing educational opportunities provided by the Health Section Council include:

- Contributing valuable content to the Society of Actuaries (SOA) Annual Meeting & Exhibit and Valuation Actuary Symposium
- Producing in-depth seminars through the Health Boot Camps
- Embarking on relevant and timely research
- Building community with section members through special interest subgroups
- Providing high-quality educational content through *Health Watch*, webcasts and podcasts
- Giving longer-term strategic direction to the profession via targeted strategic initiatives

Without the dedication, leadership and diverse talents of the Health Section Council, SOA staff, active "friends" of the council and the many content contributors, we simply could not continue to provide such high-quality opportunities.



The Health Section has an active LinkedIn Group page where you can share information and engage with fellow health care actuaries on current topics and new articles and research from the Society of Actuaries (SOA). You can request to join the group at the address <http://bit.ly/SOAhealthLI>, or you can search LinkedIn for “SOA Health Section.” You do not have to be a current Health Section member to join this LinkedIn group—all are welcome. Join our community and stay up to date on important health care issues and share your experience and knowledge.

Like many other organizations, the Health Section continues to evolve in how we bring value to our members. While we continue to provide consistent and relevant education, we are also asking ourselves, “What next?” As mentioned in my column from the February newsletter, we are now leveraging social media through the SOA Health Section LinkedIn group to bring section and industry highlights. In the four months since launching our social media campaign, our LinkedIn page

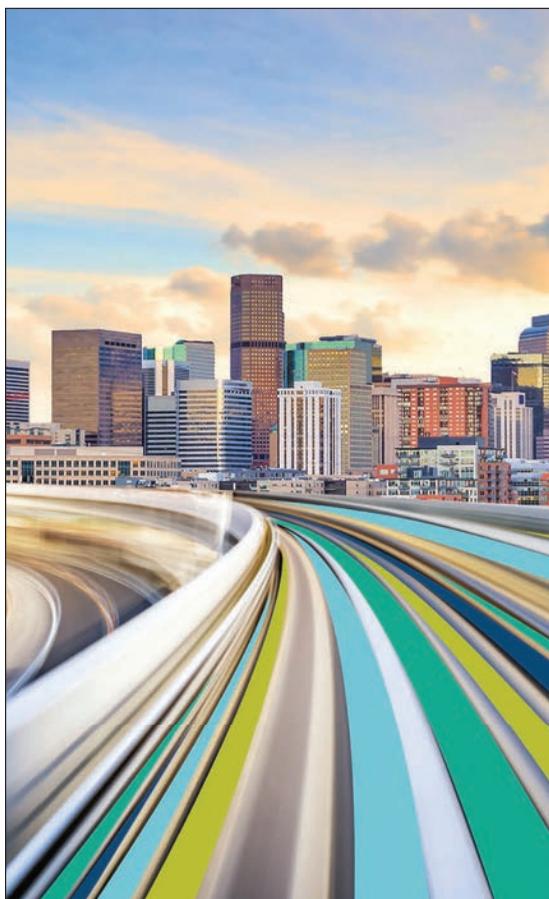
has had nearly 80 posts and has grown from 334 to nearly 500 members. If you haven’t already, join the group and start a conversation at <http://bit.ly/SOAhealthLI>!

Technology has also crept into *Health Watch*. While I personally prefer reading old-fashioned print books and articles, I find myself consuming information more often from a mobile device. It’s just a lot easier! Since going fully digital in February, *Health Watch* has been much easier to read online and share with others. Did you know that you can even listen to articles instead of read them?

I hope that you’ve found our content valuable and are enjoying the new technology. If you have any ideas for future topics or enhancements, please feel free to share them—I’d love to hear from you! ■



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Up Front With the SOA Staff Fellow

By Joe Wurzburger

This issue of *Health Watch* roughly marks the halfway point of the year, which makes it a good time to reflect on some of the accomplishments of the Health Section so far while also spotlighting a few things still to come.

The conference report from Initiative 18|11 was released in early 2019. As you may recall, Initiative 18|11 is an effort focused on the issue of rising health care costs in the United States. The U.S. spends roughly 18 percent of its gross domestic product on health care, while comparable countries in the rest of the world spend closer to 11 percent (hence the name). The Society of Actuaries (SOA) partnered with the Kaiser Family Foundation for the inaugural event in March 2018, which was held in their conference facility in Washington, D.C.

While the report represented a significant accomplishment and was the culmination of a lot of work, it is much closer to the beginning of this impactful project than the end. The whole

point of this effort is to take action steps to make an impact, not just talk about the issues. With that in mind, three work streams are underway:

- **5/50 Research Project.** This research project will focus on the 5 percent of the population that generally accounts for roughly 50 percent of health care costs. The emphasis will be on determining how to predict who will fall into the 5 percent cohort and how to prevent or minimize the cost and variation associated with those people.
- **Pharmacy Strategic Initiative.** This group will provide a description of the pharmacy development and pricing process from the time a new concept is developed until a person picks up a prescription at the pharmacy. The goal will be to provide transparency and understanding to the process.
- **Managed Care 3.0 Strategic Initiative.** This initiative will focus on the future vision of managed care in the U.S. with the purpose of building out the concepts described in the conference report. Particular emphasis will be placed on understanding analytical and evaluation techniques.

The SOA is thrilled to continue its collaboration with the Kaiser Family Foundation for these next steps, as well as to welcome an additional partner in the Healthcare Financial Management Association. There are still opportunities for you to get involved. For more information, visit the Initiative 18|11 landing page at www.soa.org/initiative1811.



The mission of SOA Health Research is to advance knowledge of health benefit systems and enhance actuaries' ability to provide expert advice and relevant solutions for modeling and management of financial risk and contingent events within health benefit systems.

In the past, requests for research proposals were generated by the Health Section Research Committee (HSR) throughout the year on various topics of interest to health practitioners. A list of completed Health research is shown at <https://www.soa.org/research/topics/health-topic-landing/>.

For 2019, the HSR changed its process to better manage its financial resources. The committee implemented a general request for research proposals on Oct. 15, 2018, so that all proposals could be reviewed at one time. Proposals were due earlier this year, and several new research projects are underway.

I also want to call your attention to the SOA's 2019 Predictive Analytics in Health Care Trend Forecast. As the impact of predictive analytics in the health payer and provider space continues to grow, health care executives anticipate future changes to predictive analytics to reduce cost by increasing efficiency. Read more about this at www.soa.org/2019-health-care-trend.

As significant as Initiative 18111 has been for the Health Section, it is far from the only accomplishment from the first part of 2019. Some of you loyal listeners may have noticed that the Health Section's podcast has successfully implemented a regular release schedule. Now you are able to hear the latest episodes hosted by Jackie Lee and Dave Dillon every other Monday. If you haven't yet, be sure to check them out at www.soa.org/health or subscribe using your favorite podcast app.

Not to be outdone, the Health Section's webcast team has been hard at work producing some high-quality content in the first part of 2019. Under the guidance of Kelsey Stevens, the Health Section has been proud to produce podcasts on several topics, including preparing actuarial memos, mental health parity, and updates to Actuarial Standards of Practice (ASOPs) 5 and 42. As a side note, so many of you attended the webcast on ASOP

updates that it broke the record for attendance at a Health Section webcast!

Many of you are reading this while attending the 2019 Health Meeting in Phoenix, so I'd be remiss if I didn't acknowledge the effort that went into creating so much high-quality content for this event. In what has turned into a good problem to have, the program committee had to sort out more than 170 session submissions to select the 100 that make up the final program. Many thanks to Rick Pawelski, Deana Bell and Ashlee Borcan for this arduous task. Be sure to share some kind words with them if you see them wandering the halls of the JW Marriott Desert Ridge Resort.

Looking ahead to the rest of 2019, we expect much more of what I've already described. Additionally, we will begin to look to the next leaders of the Health Section. As has been the case every year, there is an incredibly talented collection of Health Section members who are candidates for the council elections that will take place shortly. Those of you at the Health Meeting should take advantage of the opportunity to meet them in person. While there are many times you can bump into them while at the meeting, your best bet may be at the Health Section breakfast Wednesday morning.

And finally, as we near the end of the year, please consider attending the Health Boot Camps, which will take place this year Nov. 11–12 at the MGM Grand in Las Vegas. Whether you come yourself or you just share the idea with your friends or colleagues, it is sure to be another successful event in one of the country's hottest tourist destinations. Separate boot camps will once again be offered for advanced commercial pricing, Medicare Advantage and provider risk sharing. I'm looking forward to it and hope to see you there.

For more information about all of this, as well as many other Health Section activities that I simply ran out of space to share, check out the section's homepage at www.soa.org/health. ■



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ACA Hot Topics

By Kristi Bohn

Editor's note: This article is derived from a two-part Health Section podcast series in which Kristi Bohn, FSA, EA, MAAA, discussed recent policy changes to the Affordable Care Act (ACA) with Jackie Lee, FSA, MAAA, vice chairperson of the Health Section.

Updates to the ACA have been a hot topic for health actuaries for the past nine years. Some of those topics include cost-sharing reduction (CSR) subsidies, an ACA lawsuit in a Texas District Court, waivers for certain ACA provisions, revival of association and short-term health plans, and changes in the small group market. These will all be covered in a new study note that will become part of the exam curriculum for the health fellowship exams.

COST-SHARING REDUCTION SUBSIDIES

CSRs provide cost-sharing support to those whose incomes fall below 250 percent of the federal poverty limit. The support is accomplished via lower deductibles, out-of-pocket maximums, coinsurance and/or co-pays. Carriers who sell silver plans on the exchange must enhance all silver plan designs and, in turn, receive payments from the federal government based on enrollees' claims falling under the enhanced part of the design. This portion of lower-income subsidies has come under massive political pressure, with the Trump administration deciding that the federal government would no longer pay for CSRs beginning in the fall of 2017.

Many states reacted to this announcement by asking carriers, who are required by law to offer the enhanced silver designs on the exchange, to increase the on-exchange silver rates so that the silver premiums cover the actuarially equivalent amount of the CSR payments that they estimate will not be paid by the federal government. "Silver loading" is the common term used for this technique. If not able to load premiums for this required design subsidy, carriers would refuse to participate in the exchanges because they would lose money. Without exchanges, there are no premium tax credits (PTCs) or CSR subsidies, and most states' individual markets would fall apart entirely.

The general direction from most states is to place the premium load on the exchange silver plans only. This maximizes the premium tax credit subsidies for a state's residents and leaves

the bronze and gold options at more affordable levels for those who do not qualify for PTC subsidies. The focus on exchange silver plans also improves the numerical accuracy of the load's estimation. The action to load premiums effectively changes the federal CSR support into federal premium tax credit support, and generally ends up costing the federal government more money than the CSR subsidy would have cost, because CSR subsidies are available only to those who select the exchange silver plan variants, while PTC subsidies are available on the purchase of all exchange plans.

Many states jointly filed lawsuits over the termination of CSRs. In late 2017, a court ruled in favor of the Trump administration. The court ruled that states' use of silver loading created an alternative mechanism for financial restitution, and thus states could not demonstrate financial harm. However, in August 2018, a settlement over the failure to pay CSRs was negotiated with Minnesota and New York. These two states can uniquely demonstrate financial harm because each state operates a basic health program where the state directly receives PTC and CSR subsidies and extends unique plans to its residents outside the individual market single risk pool. Also, in early September 2018, a federal judge ruled that the Trump administration's argument that the CSR reimbursement payments could not be paid because they were not funded did not withstand scrutiny. The judge ruled in favor of Montana Health CO-OP's claim that the \$5 million it was owed was wrongfully withheld.

As of December 2018, the future of CSR payments was still in limbo. There are bills at Congress to force the restoration of CSR payments that could pass and be implemented without contention, especially given that the restoration would ironically save money. However, it is possible that stakeholders are willing to continue with the status quo, since many states are satisfied with the more beneficial financial outcome accomplished by silver loading. However, that stance could change quickly. While the 2020 Notice of Benefits and Payment Parameters (NBPP), or payment notice, did not prohibit states and carriers from silver loading for 2020, federal regulators indicated that this stance is likely to change for 2021 and beyond. If that occurs, expect more CSR controversy.

TEXAS LAWSUIT

Congress' many attempts to repeal the ACA have largely failed, likely due to Medicaid funding issues. However, the employer penalty associated with not providing health insurance has been delayed, the Cadillac tax (which charges employers for providing generous health coverage) has been delayed, and the individual penalty associated with not having health insurance has been reduced to \$0 starting in 2019. The penalty language was not removed from the codified law; the numbers were

simply changed to zero. This may be an important point in the legal process.

In December 2018, a U.S. District Court judge in Texas ruled that the \$0 penalty invalidates the entirety of the ACA. That would affect everything—even Medicaid, Medicare, small group, large group, self-insured plans, age 26 access and pre-existing conditions. In reaction to this, 16 states plus the District of Columbia filed for an expedited appeal to a higher court. Now that Democrats have control of the House, House Speaker Nancy Pelosi has stated that the House will use its power to compel the Justice Department to join in on the ACA's defense. The Justice Department previously declined to defend itself on this case, forcing the states to defend it on their own. These defending states have grown due to the midterm election, with some states switching sides entirely. The Department of Health and Human Services has stated that the Texas decision is not an injunction that halts the enforcement of the law and not a final judgment, so the federal government is still enforcing all aspects of the ACA and will not make any changes at this time.

SECTION 1332 WAIVERS

Starting in 2017, states had the option to apply for an Innovation Waiver under Section 1332 of the ACA, which permits a state to waive certain ACA provisions. Provisions that can be adjusted via a Section 1332 waiver include essential health benefits, actuarial value, single risk pool, cost-sharing reduction design, premium tax credit design, network adequacy, small group definition, and the individual and employer shared-responsibility requirements and penalties. Regulation of network adequacy is primarily at the state level already, so that type of waiver is unlikely. Further, the Small Business Health Options Program (SHOP) is defunct in most states, and states' laws and enforcement on small group definitions are recognized federally without the need for a waiver. States have already been able to implement their individual mandate penalties without waivers. To date, most states have used Section 1332 waivers to achieve pass-through of PTC funding. Such a pass-through is needed to encourage state subsidy programs, since state premium subsidies would generally imply less federal premium tax credit support. The PTCs are based on the second-lowest silver plan premium. Without a waiver, if the premium is reduced, the premium tax credits are reduced.

There are four guardrails that must be met for a Section 1332 waiver to gain federal approval.

- **The comprehensiveness standard.** The waiver must provide coverage that is at least as comprehensive as would be provided absent the waiver.
- **The affordability standard.** The waiver must not reduce the affordability of coverage.

- **The coverage standard.** The waiver must provide coverage to at least a comparable number of residents as would be provided absent a waiver.
- **The federal deficit standard.** The waiver must not increase the federal deficit.

As of December 2018, the following states have approved waivers in place: Hawaii for the small group market, and Alaska, Maine, Maryland, Minnesota, New Jersey, Oregon and Wisconsin for the individual market. Colorado, Idaho, New Hampshire and North Dakota have waiver applications that are still in process at the time of this writing. Idaho's strategy is unique in that it takes advantage of many types of waivers, while other states have generally proposed or adopted a similar approach, as discussed later. Several states were not successful in either gaining complete federal approval or making it through their own state's legislative process, including California, Iowa, Louisiana, Massachusetts, Ohio, Oklahoma and Vermont. Some of these states would have achieved approval but withdrew their applications due to parts of the applications that were not allowed.

The most common structure of the individual market Section 1332 waivers has been to reintroduce a reinsurance mechanism that provides subsidization support for high cases burdening the individual market, similar to the federal reinsurance mechanism that was in place nationally between 2014 through 2016. External financial support of reinsurance allows carriers to reduce premium rates based on the actuarial expectation of the value



of the reinsurance support. Because premiums are reduced due to state financial support, federal PTC subsidies are reduced. As such, the state files the waiver in advance to retrieve a pass-through of federal regulators' expectations of savings, but illustrating the state's own estimation of those federal savings. This pass-through of federal funds also contributes to the reinsurance program's funding source.

This strategy is somewhat misnamed as "reinsurance" because reinsurance generally implies two or more entities swapping risks at a fair market value. In the case of these so-called reinsurance programs, the external source of program funding is essential; creating more affordable and, thus, sustainable markets is the main goal. The amount of the state's appropriation for the subsidy plays a prominent role, regardless of whether the financing comes from general tax revenue or assessments on carriers and/or providers in other markets. Some of the states that failed to receive waiver approval missed this point. While federal PTC can be redistributed, it cannot increase in the aggregate.

In November 2018, CMS eased its interpretations of each of the four guardrails and provided sample template waiver concepts for states. New concepts included converting PTC pass-through funding into account-based subsidy programs, spreading PTCs differently by income and age, allowing PTCs to subsidize plans that are not sold through the exchange, allowing PTCs to subsidize plans that are not sold through the individual market and using a high-risk pool. Some of these concepts will be contested through the courts.

In the future, it is expected that Section 1332 waivers will become even more common because many states are very concerned over the sustainability of their individual markets and believe their individual markets will disappear in full or partially (particularly in rural areas) without an easement of ACA rules and regulations. However, some states believe the Section 1332 regulations and guidance do not provide enough flexibility, whether due to the guardrails, the limited topics that are waivable, the administrative and financial burden to the state, or the time and resources needed to gain federal approval. A few states, like perhaps Idaho, may attempt to change the laws applicable in their states, without seeking federal approval under a Section 1332 waiver.

REVIVAL OF ASSOCIATION HEALTH PLANS AND SHORT-TERM HEALTH PLANS

The Trump administration issued an executive order in the fall 2017 requiring its agencies to re-evaluate the ACA's prior restrictive guidance on association health plans and short-term health plans. The Final Rules were released and eased the

federal requirements in order to make these plans more widely available. Short-term plans moved from a three-month to a 12-month maximum length, possibly renewable for up to three years. Association health plans may now accept working owners who do not have employees, and may use geographic or other grounds as a basis for common interest. If an association chooses to use any of these new federal allowances, though, the association must then rate all of its members on the same basis. In other words, health conditions and past claims experience cannot play a role in rating this new track of association health plans.

In late March 2019, the U.S. District Court for the District of Columbia ruled in *New York v. U.S. Department of Labor* that the Final Rule on association health plans exceeded the Department of Labor's authority by not focusing on plans arising from employment relationships. While industry awaits the Department of Labor's formal response to this ruling, many state regulators may react by delaying approvals for association health plans that take advantage of the expanded allowances found in the Final Rule.

However, both Final Rules did not pre-empt states' existing and emerging insurance laws on these same topics. Many state regulators are concerned, as the ability for association health plans and short-term health plan carriers to select healthier individuals and groups out of the risk pools would only add to the affordability and instability problems these markets face. Further, some short-term carriers do not have a great track record when it comes to claims payment timing and coverage, while some association health plans have an even worse record when it comes to solvency and fraud. Many states are actively working to ramp up their laws to ensure consumer protections and solvency. Some states are passing new laws to disallow short-term and association health plans, or at least limit them based on a review of best practices existing in other states. Other states are actively working to simply assert and communicate the laws already in place.

Carriers' actuaries are likely adjusting individual and small group rates upward starting in 2019 to anticipate worse risks remaining in these two risk pools due to healthier people leaving and joining short-term health plans and association health plans. As a regulator, I often request that such items be quantified so I can assess the reasonability of the attribution; actuaries often fail to heed this request. The Congressional Budget Office and the Government Accountability Office produce excellent references when laws and guidance change, but particularly focus on the effect on federal budgets. These are useful sources to quantify the long-run effect, but the stakeholder viewpoint will need to be changed. From the perspective of a state's budget, these federal actions will have a long-run

effect that could be both negative and positive. For states with a basic health program or a Section 1332 reinsurance program, while individual market premiums will go up, this does not necessarily mean the state would have to pay for more actual high cases while the pass-through funding will go up to support the program. These programs can deliver more money. At the same time, this affects actual people who already find the individual market unaffordable if they do not receive federal premium tax credits.

SMALL GROUP MARKET

Carriers offering plans in the small group markets are concerned over the direct and indirect threats newly presented by the repeal of the individual mandate and the potential increase of association and short-term health plans. As individual market rates rise, many self-employed individuals and very small employers have already re-evaluated their ability to instead purchase health insurance through the small group market. This trend will be exacerbated by the repeal of the individual mandate and the rise of association and short-term health plans, which will cause individual market rates to rise further or even cause some regions' individual markets to disappear completely in the coming years. The higher rates and underwriting risks placed on the individual market boil over to a burden on the small group market's rates and underwriting risk.

For plan years 2018 and beyond, CMS decided it would no longer operate the small group exchange, the Small Business Health Options Program (SHOP), as it had in the past. The main reason is that SHOP failed to enroll enough membership to warrant the administrative effort and cost involved. For plan years 2018 and beyond, the federal exchange role and burden will be relatively minimal: basically showcasing plans and prices, performing plan certifications, providing a call center, processing employer appeals and assisting with small business tax credit. The federal version of SHOP will no longer determine employee and employer eligibility, perform premium aggregation, provide employers and carriers with enrollment and premium reporting, or provide governance over employee appeals. Federal SHOP user fees will be \$0. States that do not use the federal SHOP will vary in their own service levels. Over time, it is likely that most states will either revert to the federal SHOP or follow suit in reducing the technical support offered due to the lack of scale that the small group exchange business provides.

The 21st Century Cures Act of 2016 provided small employers with a new opportunity to offer a tax-free benefit called a qualified small employer health reimbursement arrangement (QSEHRA), which enables small employers to finance individual market purchases through a new type of account. The Cures

Act's QSEHRA allowance provides an exception to the previous prohibition of employers simply providing compensation conditioned on the purchase of individual market health insurance and then attempting to treat the compensation as if it were a tax-advantaged employer health plan. While the individual market's high level of rates and narrow networks will likely protect small group carriers from material levels of pricing risk due to small employers opting to leave to adopt QSEHRAs, these types of accounts could be attractive to small employers with lower compensated workforces eligible for premium tax credit subsidies. This new option also presents unique design and strategic considerations for any state that subsidizes or revises the individual market in order to address affordability and market stability, since there is often a stability and rate implication of those efforts on the state's small group market. In November 2018, the Trump administration released proposed rules that could expand this strategy to large employers.

STUDY NOTE

The curriculum team has difficulty keeping the new study note for the health fellowship exams up to date when it comes to the Affordable Care Act. It is particularly difficult to do that concisely because coverage of the many changing topics would require multiple issue briefs and long papers. Every few months when the note is revisited, a few new paragraphs are added to keep it up to date. The study note is meant to provide a brief update on many topics that affect the individual market and health actuaries' work, and it provides a short history of what is different since the 2014 implementation of the individual markets' massive changes. The note does not address Medicaid and Medicare topics at all. It only briefly covers small group, large group and self-insured topics, though the rules affecting those markets, and the markets themselves, have been relatively stable for the past five years. That said, the study note is about 15 pages long, so a lot has changed in the past five years, particularly in the individual market.

One cannot look at the Affordable Care Act itself, which passed in March 2010, or the initial implementation guidance, and understand how the market is actually working in practice today. It is important to keep this in mind when discussing the law and taking into account insurance and public policy risks; many who do not work in this area may not be aware of the law's continuous evolution since its passage. ■



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The Black Sheep of the ACA Family

By Greg Fann

My wife opened a DIY home décor studio last year. It changed my schedule. As her workload picks up each week when mine slows down and vice versa, weekends are no longer mutually available time and we have to be more creative in planning our social calendar.

As the early winter darkness settled in one Friday evening, my plan was to respond to a few emails before heading to the gym while my bride taught people how to make something she calls “chunky knit blankets.” An annoying beep sounded and a “Breaking News” bulletin flashed on my screen: “Obamacare ruled unconstitutional.” I knew exactly what this was about¹ but was unclear what it all meant. My exciting Friday-night plans of being alone in a gym were replaced with hours of reading and thinking about constitutional law.

THE COURT DECISION

On Dec. 14, 2018, a federal judge issued a decision in *Texas v. Azar*² declaring the individual mandate provision in the Affordable Care Act (ACA) to be unconstitutional. This was consistent with the 2012 U.S. Supreme Court ruling in *National Federation of Independent Business (NFIB) v. Sebelius*, which ruled that the requirement exceeded congressional power under the interstate commerce clause. However, the Supreme Court ruling in *NFIB v. Sebelius* allowed the mandate to be enforced under the taxing power of Congress. The elimination of the tax penalty in the December 2017 Tax Cuts and Jobs Act (TCJA) nullified the tax penalty but left the individual mandate in place. Hence, the Texas court ruled that the remaining mandate without taxation had no legal basis.

With a tax penalty in place, individuals had a choice between procuring insurance and paying a tax. Either would satisfy the legal requirement. Now there is simply a requirement to obtain health insurance. There is not a punitive mechanism for not doing so, but the requirement is in place nonetheless. Had the Texas court simply struck the individual mandate, there would likely have been little controversy. Instead, the court ruled that the individual mandate cannot be severed³ from the other ACA provisions and struck down the entire law.

The judge focused his decision on the intent of the 2010 Congress (passing the ACA), but he has received criticism for glossing over the intent of the 2017 Congress when the shared responsibility payment was voided in the federal tax overhaul in 2017. This is undoubtedly harder to assess, but many legal experts expect other courts will need to focus there.

The task before the courts is judgment of congressional intent. Did Congress believe the individual mandate was an essential part of the law?

THE PLAYERS AND THEIR POSITIONS

The distinct players and their legal arguments are:

- **The state plaintiffs.** Twenty states, led by Texas, alleged that the individual mandate is unconstitutional and that all the other ACA provisions are inseverable.
- **The individual plaintiffs.** Neill Hurley and John Nantz, U.S. citizens and Texas residents, alleged that the individual mandate is unconstitutional and that all the other ACA provisions are inseverable. They argued that they were injured by forced compliance with an unconstitutional mandate.
- **The federal defendants.** The United States of America, the United States Department of Health and Human Services, and the United States Internal Revenue Service agreed that the individual mandate is unconstitutional, and that it is inseverable from the ACA's pre-existing-condition provisions and community rating requirements. They disputed that other ACA provisions (e.g., premium subsidies) are inseverable⁴ from the mandate.
- **The intervenor defendants.** Sixteen states and the District of Columbia, led by California, disputed all of the plaintiffs' claims.
- **The judge.** United State District Judge Reed O'Connor agreed with the plaintiffs that the individual mandate is unconstitutional and that all the other ACA provisions are inseverable. While the plaintiff asked for an injunction, O'Connor issued a partial summary judgment and later stayed the ruling, allowing ACA markets to continue functioning as currently operating without interruption until the case is appealed.

- **Other courts.** For the ACA to be functionally overturned, the case will likely have to go through the 5th Circuit Court of Appeals and the Supreme Court over the course of several years.

THE COMPLICATED HISTORY OF THE INDIVIDUAL MANDATE

In 1993, Sen. John Chafee, a Rhode Island Republican, introduced the Health Equity and Access Reform Today Act. It was a defensive maneuver to offer a private alternative to contrast the government-centered plan being devised by the Clinton administration. The bill was never debated, voted upon or amended for future consideration. Among other things, the bill included an individual mandate provision, albeit without the comprehensive benefit requirements of the ACA.

The concept was resurrected in the 2008 Democratic presidential primary by candidates John Edwards and Hillary Clinton. The third and final candidate, Barack Obama, opposed the mandate and wanted to be sure the electorate truly understood the concept. He reminded the electorate: “It’s not a *mandate* on government to provide health insurance. It’s a *mandate* on individuals to purchase it”(emphasis added).⁵

John Chafee’s son Lincoln served as a Republican senator from 1999 to 2007, endorsed Obama for president in 2008 and served as national co-chair for his re-election campaign in 2012. Of course, Obama changed his position on the individual mandate after becoming president.



THE CBO, THE ACA AND THE ACADEMY

While Obama initially opposed the individual mandate, he was faced with promoting contentious legislation and the prospect of the Congressional Budget Office (CBO) taking “the position that without an individual responsibility requirement, half of the uninsured will be left uncovered.”⁶ The inclusion of the individual mandate in the ACA allowed the CBO to score the bill with attractive enrollment and politically required “deficit neutrality,” but its vulnerability made it an easy target of ACA detractors. It suffered not only due to its unpopularity, but also because of challenges to its constitutionality.

These legal challenges quickly arose. Actuarial input was relied upon to appreciate the mandate’s necessity. In 2011, the American Academy of Actuaries (the Academy) stated that the mandate is such “a vital component of the year-old health reform law that, if removed, alternatives would be needed.”⁷

In 2012, the Academy effectively viewed severability consistent with the federal defendants’ position. “However the Court rules on the constitutionality of the individual-mandate provision ... the guaranteed-issue and community-rating provisions should stand or fall together with it” based on the actuarial perspective that “in order for the community-rating and guaranteed-issue provisions in the Act to operate as intended, they must be paired with an effective mechanism to ensure broad participation in the health-insurance market, such as an individual mandate.”⁸

CONGRESSIONAL INTENT (ESSENTIALITY AND SEVERABILITY)

The task before the courts is judgment of congressional intent. Did Congress believe the individual mandate was an essential part of the law? Would the law have passed without the individual mandate provision? These are important questions, as the court should sever the parts of the law that would have passed without the individual mandate.

The federal defendants had argued that guarantee issue and community rating were inseverable from the mandate, consistent with the general understanding of the essentiality belief of the 2010 Congress and the Academy’s 2012 recommendation. In a brief submitted after the District Court ruling, the federal defendants agree that other ACA provisions, which could properly function without an individual mandate, should fall as well, as “the question of congressional intent as to those provisions is complicated by the circumstances surrounding their enactment.”⁹

What did the 2017 Congress intend by striking the shared responsibility payment but leaving the individual mandate in place, subsequent to the Supreme Court ruling in 2012 that the mandate was constitutional only due to the taxing power of Congress?

Legal opinions vary somewhat, but reasonable conclusions of a future court may be:

1. The individual mandate was viewed to be essential¹⁰ by the 2010 Congress.
2. The individual mandate was not viewed as essential by the 2017 Congress.
3. The intent of the 2017 Congress is more relevant, as it can freely change laws passed by the 2010 Congress.

THE LEGAL DILEMMA

Courts must presume congressional intent. While members of Congress likely cast their votes without full consideration of an alternative mechanism, this is undoubtedly a subjective exercise. For example, if Provision X in Legislation Y is ruled unconstitutional and Legislation Z = Y - X (feeling compelled to put some math in here), Congress would not cast an “insurance vote” on Z on the prospect that X may later be ruled unconstitutional. While judicial interpretation necessarily provides some flexibility, there is one judgment that courts most avoid. Courts are not allowed to presume that Congress intended to pass an unconstitutional law.¹¹ A court could find a law facially constitutional and as-applied unconstitutional.¹²

The challenge before the courts is interpreting constitutional intent with respect to a remaining unconstitutional element in current law. While the Supreme Court has not limited itself to binary options on ACA matters, the courts appear to have two unworkable interpretations: Either Congress left an unconstitutional law in place or Congress left an unconstitutional element in an otherwise constitutional law.¹³

THE LESSON FOR ACTUARIES

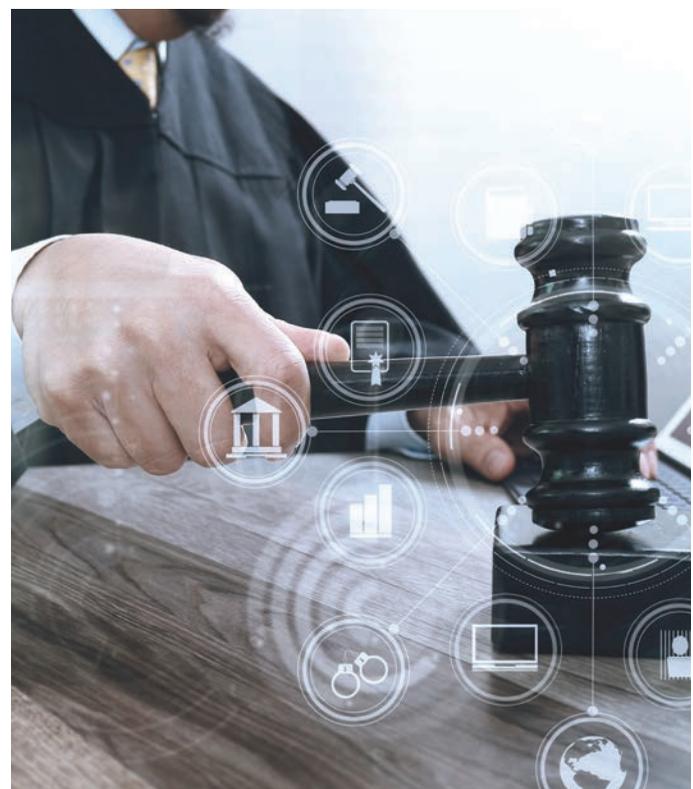
If congressional intent is the crucial interpretation and congressional intent is based on a congressional view of essentiality, how is a congressional view of essentiality formed? As the matters at hand are actuarial in nature, did the view of actuaries naturally become the view of members of Congress? If the view of actuaries has changed with experience, are the results of court cases based on actuarial opinions of yesterday? These are questions I did not ponder a year ago.

Since 2010, several observers have referred to the individual mandate as an essential leg of a three-legged stool.¹⁴ Unfortunately, public discussion of this nature has been misguided. First, the individual mandate could be considered a short leg of a very unbalanced stool. Second, three legs are not needed.¹⁵ A strong enough mandate (e.g., annual \$15,000 penalty) that is strictly enforced could incent near universal coverage. Likewise,

premium subsidies that account for nearly all gross premiums could do the same. The combination of premium subsidies and an individual mandate work in tandem to incent coverage, but the implication of a required balancing of three legs of equal strength has acted to confuse proper understanding of ACA incentives. Hopefully, actuaries have articulated ACA mechanics more accurately than other commentators.

Actuaries should be clear that our viewpoints are estimates and avoid absolute statements. For example, it would be irresponsible to suggest that an individual mandate (or lack thereof) has no enrollment or premium impact; it is likewise irresponsible to definitively state that an insurance market cannot survive without a mandate. We can quibble about percentages, but the individual mandate penalty repeal in 2019 is not going to collapse the market. While most observers recognize this today, the ACA was ruled unconstitutional because a court believed a prior Congress believed that to be the case. As O'Connor specified in his ruling, “Congress stated explicitly that the Individual Mandate ‘is essential to creating effective health insurance markets that *do not require underwriting and eliminate its associated administrative costs*’ ...” (emphasis added).¹⁶

This has been an eye-opening series of events. While actuaries are known for our expertise in building and managing financial systems, we don't often consider that our technical opinions



are adopted by others for considerations such as determining congressional intent.

I believe the ACA experience provides three lessons for actuaries:

1. Don't speak in absolutes.
2. Incentives work; seek to understand them.
3. Consumers almost always understand their personal interests better than other stakeholders and accordingly make decisions in that regard. Markets that rely on consumers acting in the interest of the market will struggle.

FINAL THOUGHTS

I have had many discussions about this case inside and outside our profession. While most people expect the Texas ruling to be overturned, many find the decision unsettling. Personally, I believe a Supreme Court review would bring appropriate closure. Laws of this consequence should not have elements of constitutional uncertainty. We should expect contentious laws of significant magnitude that flirt with constitutional boundaries to be fully examined.¹⁷ Chief Justice John Roberts wrote his own opinion in 2012. It allowed the ACA markets to continue

uninterrupted and was described by most observers as “novel.” It was praised by some and ridiculed by others.

Commentary on O'Connor's ruling has been less balanced. While acknowledging “a certain satisfaction in seeing the Chief Justice hoist on his own logic,”¹⁸ *The Wall Street Journal* criticized the ruling as an attempt to achieve policy goals through the courts rather than Congress. O'Connor's work regarding the individual mandate is now finished. Roberts may have prematurely closed his book in 2012. If this case rises to the Supreme Court, he will need to consider his prior opinion, the current reliance on the ACA in society and the intention of the 2017 Congress. Of course, we will then have actual history of ACA market performance without a shared responsibility payment. It will be interesting to compare the court discussion of beliefs regarding essentiality with the evidence of actual experience in real time, and notorious¹⁹ if the two are not aligned. ■



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ENDNOTES

- 1 I recruited the special counsel for civil litigation at the Texas attorney general's office, the plaintiff in this case, to speak at the Society of Actuaries Health Meeting in June 2018 for a panel called Hot off the Press: The Latest ACA Developments, Session 24, June 25, Austin, Texas. <https://www.soa.org/prof-dev/events/2018/health-meeting/agenda-day-2/>.
- 2 *Texas v. United States of America*, case no. 4:18-cv-00167-O, Memorandum Opinion and Order, Dec. 14, 2018, <https://affordablecareactlitigation.files.wordpress.com/2018/12/Texas-v.-US-partial-summary-judgment-decision.pdf>.
- 3 The determination of “severability” is a subjective legal matter that relies upon interpretation of congressional intent. It is discussed later in this article.
- 4 Three months after the court ruled in plaintiffs' favor, the federal defendants dropped this dispute. U.S. Department of Justice to Lyle W. Cayce, Clerk of the U.S. Court of Appeals for the Fifth Circuit. March 25, 2019. <https://theincidentaleconomist.com/wordpress/wp-content/uploads/2019/03/letter-from-DOJ.pdf>.
- 5 BuzzFeed: Obama on the Mandate in 2008. YouTube, Dec. 25, 2011. <https://youtu.be/FknJLMc84bo>.
- 6 Lizza, Ryan. The Mandate Memo: How Obama Changed his Mind. *The New Yorker*, March 26, 2012, <https://www.newyorker.com/news/news-desk/the-mandate-memo-how-obama-changed-his-mind>.
- 7 American Academy of Actuaries. 2011. Actuaries: Removing Individual Coverage Mandate Would Require Alternatives. News release, March 28. https://www.actuary.org/files/03.28.11+News+Release+Mandate_0.pdf.
- 8 *National Federation of Independent Business v. Kathleen Sebelius, Secretary of Health and Human Services; State of Florida v. Department of Health and Human Services*, case nos. 11-393 and 11-400, Brief for the American Academy of Actuaries, Jan. 2012, [http://dev.actuary.org/files/publications/Academy_amicus_\(11-393\).pdf](http://dev.actuary.org/files/publications/Academy_amicus_(11-393).pdf).
- 9 Baker, Sam. The Trump Administration's Case for Killing the ACA. *Axios*, May 2, 2019, <https://www.axios.com/affordable-care-act-repeal-strike-down-trump-administration-12ca52f7-4258-40aa-bcfd-b98d956c2e9d.html>.
- 10 Weinstein, Rich (@phillyrich1). 2016. “But NOW that a TX Judge has ruled the ACA completely unconstitutional because the mandate is unconstitutional and cannot be severed from the ACA, well, never mind what we all said before, ‘The law still works without it.’” Twitter, Dec. 16, 2018. <https://twitter.com/phillyrich1/status/1074323151193063425>.
- 11 Adler, Jonathan H., and Abbe R. Gluck. What the Lawless ObamaCare Ruling Means. *New York Times*, Dec. 15, 2018, <https://www.nytimes.com/2018/12/15/opinion/obamacare-ruling-unconstitutional-affordable-care-act.html>.
- 12 Somin, Ilya. Judge Sutton on Facial vs. As-Applied Challenges to the Individual Mandate. *The Volokh Conspiracy*, June 29, 2011, <http://volokh.com/2011/06/29/judge-sutton-on-facial-vs-as-applied-challenges-to-the-individual-mandate/>.
- 13 Congress did not repeal the individual mandate, but rather left the individual mandate in place without a taxing mechanism.
- 14 Loosely speaking, the shared responsibility payments and premium subsidies are needed to balance guarantee issue and community rating requirements.
- 15 Other government programs, such as Medicare Advantage and Managed Medicaid, functionally operate without a risk-based premium rating or an individual mandate.
- 16 Supra note 2.
- 17 Fann, Greg. Government Accountability. *Axene Health Partners* (accessed April 8, 2019), <https://axenehp.com/government-accountability/>.
- 18 Texas ObamaCare Blunder: A Judge's Ruling Will be Overturned and Could Backfire on Republicans. *Wall Street Journal*, Dec. 16, 2018. <https://www.wsj.com/articles/texas-obamacare-blunder-11544996418>.
- 19 Not intended to be a reference to the eldest justice on the bench. Kelley, Lauren. How Ruth Bader Ginsburg Became the “Notorious RBG”: Irin Carmon and Shana Knizhnik Discuss Their New Book and Justice Ginsburg's Trailblazing Career. *Rolling Stone*, Oct. 27, 2015, <https://www.rollingstone.com/culture/culture-features/how-ruth-bader-ginsburg-became-the-notorious-rbg-50388/>.

Leader Interview

With Paul Spitalnic

Paul Spitalnic, ASA, MAAA, has been the chief actuary for the Centers for Medicare & Medicaid Services since 2013. In this position, he is responsible for evaluating the financial status of the Medicare trust funds, projecting program costs for the president's budget, estimating national health expenditures, calculating program rates, and other actuarial functions related to the Medicare and Medicaid programs. Paul joined CMS in 2003 and led the actuarial efforts to implement the new Part D program. From 2006 through 2013, Paul held the position of director of the Parts C & D Actuarial Group, where he was responsible for the actuarial work related to Medicare Advantage and Part D programs. Prior to joining CMS, he worked as a consulting actuary focusing on retiree health insurance issues. He is an associate of the Society of Actuaries, is a member of the American Academy of Actuaries and has a B.A. in mathematics from Binghamton University in New York.

ON BEING AN ACTUARY

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

Paul Spitalnic (PS): Freshman year of college. I went to college expecting to use my math background and interest to go into one of the only two professions that I was familiar with at the time: business or teaching. Binghamton offered a class that prepared students for the first actuarial exam and provided background into the actuarial field. I could use my math skills to solve real problems in a business setting *and* make a decent living? Yes, becoming an actuary was for me.

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

PS: Teaching has always interested me. After becoming a teacher's assistant in college for a couple of math classes (does anyone still learn Pascal?), I knew that I had my Plan B in case this actuary thing didn't work out (still too early to tell).

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



PS: It isn't quite a prior job, but my favorite pastime for trying to generate additional income is, and almost always has been, playing poker. I have been modestly successful since the days before poker was a televised attraction. I've played a lot less since having my three children, but I still manage to get to the tables a few times a year.

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

PS: Most crucial isn't sufficient, so I will give you the top three: (1) great mentors and role models, (2) the ability to learn from my mistakes, and (3) the recognition that I don't have all of the answers.

Although there is much to learn with respect to technical skills to become an actuary, personal skills and traits are equally important. From those I looked up to, I learned dedication, diligence, excellence, integrity and humility. Thank you, Marsha, Robin and Rick for being great mentors!

We each have the opportunity to learn so much more from our failures than from our successes. Whether it's making an error in a spreadsheet, making a commitment that we can't entirely keep, or not treating others with the proper respect, it's our failures that teach us not to repeat prior problems but to learn from our weaknesses and grow as professionals and human beings.

Finally, I am so fortunate to work with 90 professionals in the Office of the Actuary (OACT) and countless others across CMS. It is a rare day when I'm the one providing the solution to a complex problem. The best opportunity for success is to surround yourself with bright, committed people and empower them to be successful. Thank you, OACT!

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

PS: I started working at CMS in November 2003. In December 2003, the Medicare Modernization Act was passed, creating a new Medicare prescription drug program. Since it was a completely new program, there weren't many in the office who were available to work on it. I started doing what I could to support the Office of the Actuary and others in the agency who were working on implementing Part D. About two years later, seniors began to receive their drug benefits. It was a whirlwind, but I will always feel fortunate to have been part of the team at CMS that helped bring meaningful benefits to millions of people. It is always helpful to be in the right place at the right time, but it is also important to make the most of small opportunities, as they can lead to larger ones.

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

PS: Did I mention I have three young kids? It is easy to be concerned with any of the issues involving health care, such as cost, transparency, efficiency, quality or accountability. While I am focused on trying to have the answers to respective questions regarding these topics, my role is somewhat unique relative to

other actuarial leadership positions. The role of the Office of the Actuary is to provide timely, impartial and authoritative estimates and analyses of health care financing and expenditures to policymakers and the public at large. Making sure that our analyses can continue to be relied upon to meet this high standard is of the utmost importance in my current position. Any appearance of bias or poorly produced work could destroy our ability to function overnight, so this is an area that I may lose sleep over. Or it could be one of my kids.

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?

PS: My original training was as an actuarial consultant, which taught me how to manage multiple conflicting priorities. More importantly, it allowed me to appreciate that the true significance of my work is in the value that I add for my clients. At CMS, there are so many stakeholders for any particular body of work. Beneficiaries, providers, insurers, the Administration, Congress, taxpayers—these are the different lenses through which our work will be evaluated. It is important to recognize that we are serving both direct and indirect clients, usually simultaneously.



The key to providing successful leadership in any position ... is to identify what your organization is trying to achieve.

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

PS: There is a big difference between helping your clients and telling them what they want to hear. Most policymakers want their proposals to lower costs and improve care, but this is rarely the case. Helping policymakers understand the actuarial implications of a proposal and the ways in which different features affect the estimates makes the policy development process much more effective.

HW: Let's say you're hiring your successor. If you're presented with two actuaries with equivalent experience and training, what characteristics will help you choose one over the other?

PS: Some characteristics that I believe are important in my role are integrity, commitment to mission, the ability to communicate complex topics to varied audiences, the capacity to transform general goals into specific actions, the ability to manage expectations and direct priorities, and the desire to see those around you achieve success.

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

PS: The two that come to mind are the challenges pertaining to the complexity of the work itself and the challenges involved in accurately and thoroughly communicating the results of the analysis.

Having to develop estimates for large-scale changes for which experience is only cursorily related is always quite challenging. Two examples of this are in OACT's modeling of the Medicare Modernization Act, which introduced the new Medicare prescription drug benefit, and the Affordable Care Act, which created individual marketplaces and subsidies. In both cases, limited data was available that could be relied upon to understand how many individuals would join these voluntary programs and what the costs would be for those who did. We had to rely on the data available and build the best models we could under the circumstances.

While the work itself is a challenge because of its complexity, effective communication of the work is equally important. We always strive to have a balanced, thorough discussion of assumptions, methods and results. Actuarial Standards of Practice (ASOP) 41 provides many useful criteria in developing actuarial communications. For example, Section 3.7 of the ASOP explicitly considers how "Other Users" may use our communications. There have been cases in which external parties have used selected portions of our work or grossly mischaracterized our findings. One example is a report headline that read "Medicare Report Confirms Health Care Takeover Plan is a Fiscal Disaster." This example highlights the challenge we have to make certain that our communications are well grounded, well supported, and as factual and free of any nonactuarial opinion as possible to ensure that any mischaracterizations are based on the intent of the author rather than a limitation of the product.

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

PS: Most important, you need to understand your organization and understand your staff. The key to providing successful leadership in any position at any organization is to identify what your organization is trying to achieve and then to assist your staff in completing not just the specific tasks that have been requested but also tasks that accomplish your organization's broader objectives. ■

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MACRA's Strategic Implications: What Providers and Health Plans Need to Know

By Julie Witt and Jim Dolstad

The Medicare Access and CHIP¹ Reauthorization Act of 2015 (MACRA) included sweeping changes to how physicians and other clinicians are paid through Medicare. Aside from simply addressing clinician payments, MACRA is intended to significantly improve patient outcomes and reduce the cost of health care by offering incentives to medical professionals for the overall quality of care they provide, rather than the number of services and procedures performed. While the final rule was released in October 2015, the Centers for Medicare & Medicaid Services (CMS) continues to refine the regulations on an annual basis.

Included in MACRA is the Quality Payment Program (QPP), which introduced two incentive paths for clinicians: the Merit-Based Incentive Payment System (MIPS) and Advanced Alternative Payment Models (AAPMs). The primary goal of this legislation was related to transforming traditional fee-for-service (FFS) payments to value-based payment models built around improving quality of care.

As the focus for clinicians moves from volume to quality, hospitals and health plans must also consider the potential implications. Some impacts include:

- Indirect impact to Medicare FFS revenues because of utilization reduction pressures
- Potential reduction in Medicare Advantage (MA) county benchmark rates
- Potential misalignment of CMS MIPS scores relative to health plan high-performance networks
- Streamlining and harmonizing the metrics for provider performance
- New product offerings

- Additional policy changes
- Potential cost shifting

There is no one-size-fits-all solution for stakeholders to address these concerns, since quality, competition, provider group composition and demographics vary by location.

OVERVIEW AND OBJECTIVES OF MACRA

Passed by large majorities in both houses of Congress, MACRA replaced the Medicare physician sustainable growth rate formula, which was largely unpopular among clinicians due to the unpredictability of payment reimbursements on a year-to-year basis. Instead, MACRA explicitly codifies the principles of “value-based care” articulated in the Affordable Care Act (ACA) of 2010 and endorsed by CMS for more than a decade. In simplest terms, it moves the majority of fee-for-service payments to a system based on value and quality of care, which is in alignment with health care transformation in the United States. Figure 1 illustrates the evolution of CMS policies.

The new payment approach, QPP, bases compensation to providers on patient health outcomes, activities that improve their clinical practices, efficient use of medical resources and the meaningful use of certified electronic health records. Providers will be paid either under MIPS or based on their participation in and adoption of AAPMs, which could have additional revenue implications for individual clinicians. CMS will offer payment incentives for clinicians participating in AAPMs and for those who exceed goals tied to patient outcomes and population health metrics. MACRA provisions offer the potential for improved patient health and more stable updates to Medicare physician fee schedule payment rates. However, a larger percentage of clinician revenue will be at upside/downside risk.

MACRA offers strategic and financial incentives for most health care organizations. Finding the best path to comply with MACRA will afford organizations the stability and freedom to gain market share in the ever-changing health care economy.

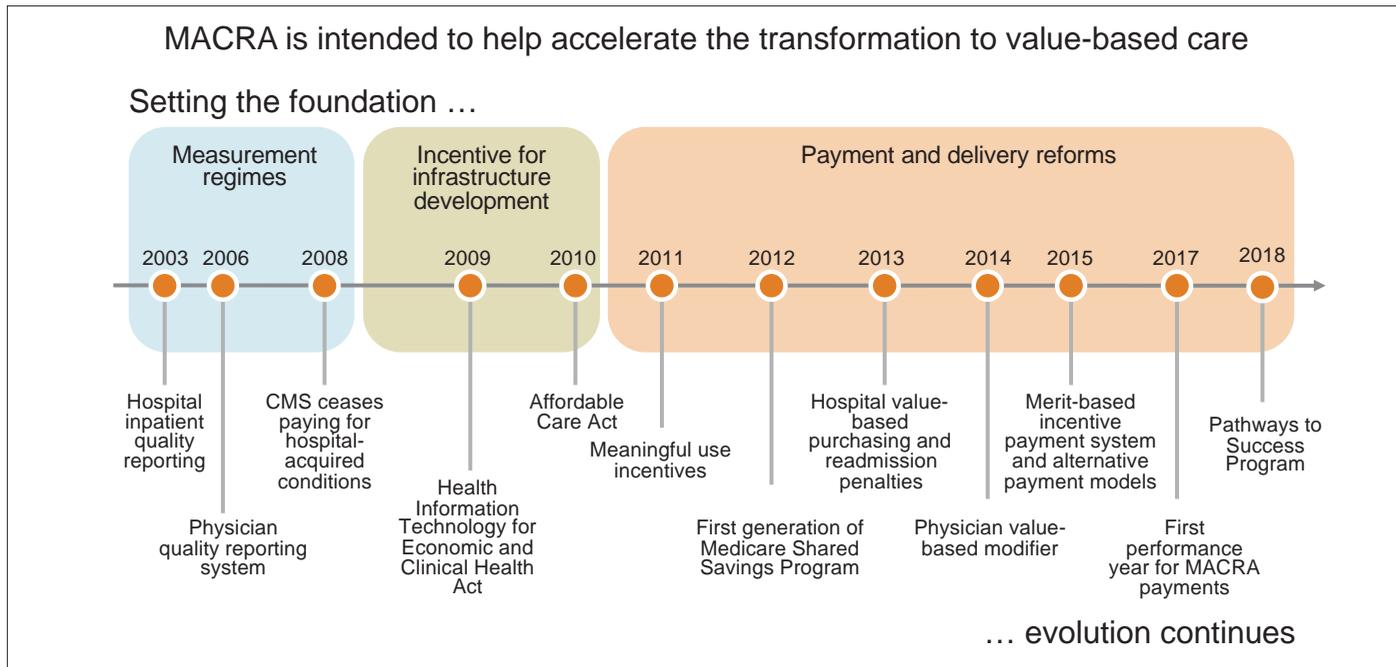
CHOOSING A MACRA PATH

To understand MACRA's reach, it is critical to understand what it is designed to do currently and in the future. The law authorizes the QPP for providers, which offers two pathways: MIPS and AAPMs.

MIPS

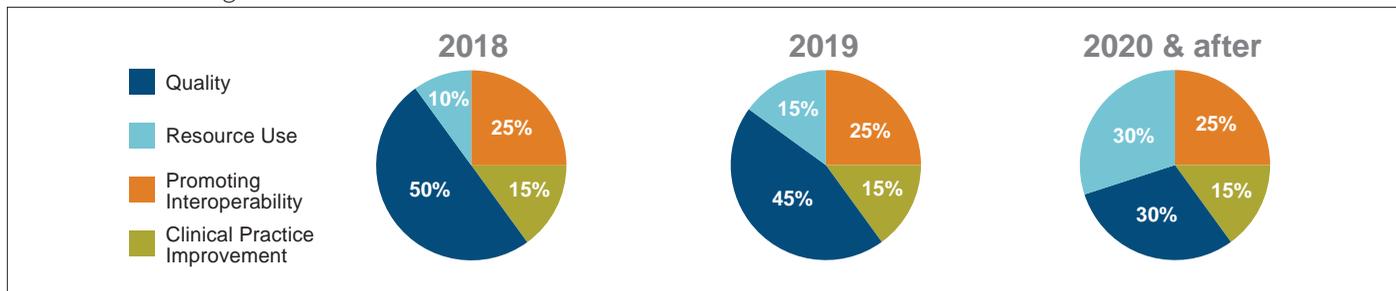
MIPS is a measurement-based regime that consolidates the three CMS existing programs—Physician Quality Reporting System (PQRS), Value Modifier (VM) and Meaningful Use (MU)—into a single, metric-driven track. Eligible professionals

Figure 1
Evolution of CMS Policies



Source: Optum

Figure 2
MIPS Measure Weights



Source: Optum

will be measured on quality, resource use, clinical practice improvement, and the ability to capture and share health information. This is shown in Figure 2. Clinicians will be scored in varying degrees over the next several years on these categories. However, MIPS won't necessarily drive down the overall cost of care, as it is simply a measurement-based regime lacking the financial incentives of a value-based care program.

Medicare intended the MIPS payment program to be a zero-sum game, meaning that positive payment adjustments will require taking revenue from other participants via reduced fee schedules. Providers who choose MIPS can't predict with certainty whether they will gain or lose revenue because fee

schedule adjustments will be determined by the relative performance of all clinicians in the MIPS program. As the program is currently structured, past performance will be no guarantee of future success.

AAPMs

AAPMs are value-based payment programs authorized by the ACA to pay for care given to Medicare beneficiaries. These include accountable care organizations (ACOs) that involve two-sided risk models offering not only the potential for increased payment for improving quality and containing costs, but also potential downside penalties for failing to achieve financial and quality targets. AAPM structures encourage providers to

collaborate across the continuum of care, bear financial risk for episodes and populations, and more proactively engage patients. Examples of AAPM models include Medicare Shared Savings Program (MSSP) Track 2, MSSP Track 3, Medicare ACO Track 1+, Next Generation ACO, Bundled Payment Care Initiative (BPCI)-Advanced, and MSSP Basic E and Enhanced.

An AAPM model must meet several criteria, including use of certified electronic health record technology (CEHRT); require payment based on quality measures; and involve two-sided financial risk. In addition, the model must meet the revenue or patient threshold requirement for qualified participant (QP) status under these models each year. If all criteria are met, the AAPM will earn a 5 percent bonus payment based on its Part B revenue. AAPMs are exempt from MIPS. Figure 3 shows how the fee adjustments work.

PROVIDER REACTIONS AND IMPLICATIONS

Clinicians are at the center of MACRA and its ramifications, yet many providers find themselves in a difficult position adapting to the law. Since the ACA was passed, value-based care has been positioned as a beneficial idea rather than a requirement. However, CMS put the weight of law behind value-based care for most clinicians, increasing the urgency of care delivery transformation due to increasing incentives and penalties. Like most transformations, however, moving from a volume to a value payment policy will come with significant challenges.

To understand the QPP's impact and develop the best short- and long-term strategies, provider organizations need to consider their ability to manage risk and prioritize investments over the next few years. To understand the business risks and choose the

best QPP path for 2019 and beyond, clinician groups need to develop and deploy financial models.

Of course, MACRA has implications beyond just revenue, including the models providers and payers use to conduct business and provide care for patients.

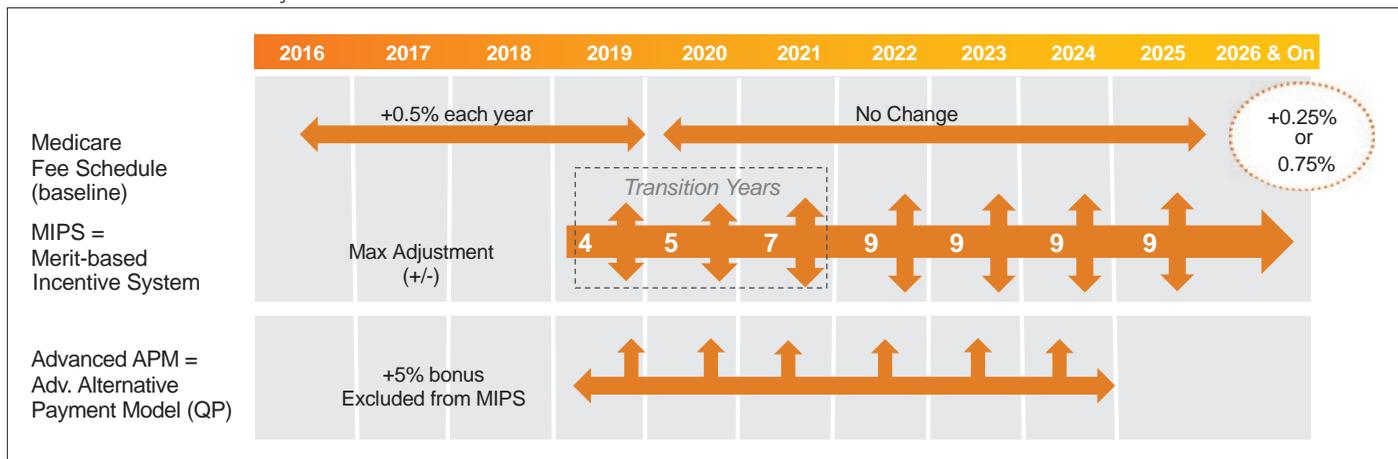
CMS put the weight of law behind value-based care for most clinicians, increasing the urgency of care delivery transformation.

MACRA will change the way clinicians practice and the way they refer patients, which will have a direct impact on hospital admissions and revenues. Because clinician referrals are critical to a facility's bottom line, health systems should use the opportunity MACRA provides them to become more valuable partners with clinicians and connect providers across the continuum of care (e.g., ambulatory, acute, post-acute and rehabilitation).

Many clinicians may rely on health systems for assistance in complying with whichever payment pathway they choose. A larger organization could scale its administrative infrastructure, relieving the clinicians of some administrative duties, thus allowing providers to focus on clinical improvement. Providing such an option will give clinicians valuable assistance to promote greater loyalty and establish or strengthen referral relationships.

Setting up an AAPM takes capital and capabilities that many individual clinician organizations don't often possess. Larger

Figure 3
Part B Fee Schedule Adjustments



Data source: Centers for Medicare & Medicaid Services



health care facilities, on the other hand, may possess some of the functions necessary for AAPM success, including the following:

- Population health management (PHM) applications
- High-risk care management programs
- Tools that enable clinical integration and collaboration across care settings
- Community outreach programs

Despite the many challenges of participating in MIPS or an AAPM, clinicians, hospitals and even payers can have positive outcomes due to MACRA with careful planning and strategy. While there is no single surefire strategy that will guarantee a win or loss, health care stakeholders must understand the potential financial implications of each pathway.

MACRA'S IMPACT ON PAYERS

While MACRA is largely directed at providers serving Medicare FFS members, its indirect impact will cross all lines of a payer's business: Medicare, Medicaid and commercial. However, whether MACRA will ultimately have the same impact of some of its predecessor CMS programs, such as diagnosis-related groups (DRGs), risk adjustment and star ratings remain unknown. Meanwhile, MACRA continues CMS's objective of stressing value over volume within the economics of the health care system.

MACRA is in its early stages, but its downstream impact is quickly becoming a reality for payers. Currently, the primary payer concerns include the following issues:

- How will we process, in theory, over 1 million unique provider fee schedules?
- Will our brand reputation take a hit if our narrow network providers have below-average MIPS scores?
- How are our payments to providers, and cost to customers, impacted, since they are expressed as a percentage of Medicare reimbursement?
- Will our concerns over MACRA reporting erode our gains in value-based care?
- When, in what counties and by how much are the MA benchmark rates likely to decrease?
- How will the distribution of members across our Medicare plans be impacted, and what will be the change in the underlying mix of risk?

VARIATION OF MACRA'S IMPACT BY PAYER AND GEOGRAPHY

MACRA's financial impact to payers is dependent upon numerous variables, including market competitiveness by line

of business, coding and documentation accuracy capabilities, clinical quality, value-based care sophistication and MA plan penetration, to name just a few. These factors vary significantly by both geography and payer, and will result in the magnitude of MACRA's impact to vary by geography and payer as well.

For example, counties that have strong MA penetration rates, above-average star ratings and above-average coding and documentation have traits and performance that reflect mature value-based care markets. Many payers in these markets are less likely to be impacted by MACRA than payers operating in less mature markets, as less transformation is required. MACRA, from a provider-reimbursement perspective, is a zero-sum game, with variables such as risk adjustment designed to be budget neutral to CMS.

ADAPTATIONS ACROSS THE HEALTH CARE ECOSYSTEM

MACRA has now been in place long enough for many providers to develop and begin execution of their initial game plans for success going forward. Meanwhile, most payers have also had the opportunity to study providers' initial reactions and develop their own formulas for success.

While some providers are looking for ways to collaborate with payers on MIPS, other providers have decided MIPS is not a viable option for their practice and have developed FFS exit strategies. MACRA was created with minimum membership, paid-claim and claim-count thresholds. As a result, many providers have encouraged their FFS patients to move to MA plans. Payers that did not anticipate this movement when developing their 2018 and 2019 MA bids may find their underlying risk pool to be different than they assumed, leading to potential deviations between actual and expected claims experience.

Providers may also be considering, or already participating in, the AAPM track. CMS is encouraging provider/payer collaboration in this track through the All-Payer APM option. Participation in non-Medicare APMs in 2019 and later can help providers meet the QP threshold to qualify for the AAPM 5 percent bonus payment and receive an exemption from MIPS.

As trusted advisers to the health care industry, actuaries need to provide guidance to payers and providers around the potential impacts of MACRA and the QPP. A white paper funded by the Society of Actuaries (SOA)² provides insight and considerations for the profession so actuaries can assess the potential risk and opportunities for their organization across numerous areas, including:

- Financial implications and risk to providers, both MIPS and AAPM pathways
- Collaboration opportunities across providers and payers
- Implications on provider/payer contracting and relationships, including financial and reputational impacts
- Implications to MA, MediGap and commercial lines of business

As MACRA continues to evolve, organizations—both provider and payer—need to respond and adapt with strategies that meet their business objectives and provide opportunities for growth and profitability. There is no one-size-fits-all strategy, but the goal is clear: Improve patient outcomes and reduce health costs by rewarding value over volume. ■



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ENDNOTES

- 1 Children's Health Insurance Program.
- 2 Dolstad, Jim, and Julie Witt. 2019. *Health Plan Strategic Implications of MACRA*. Forthcoming report.



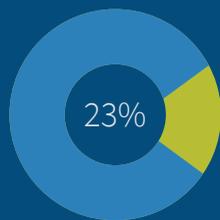
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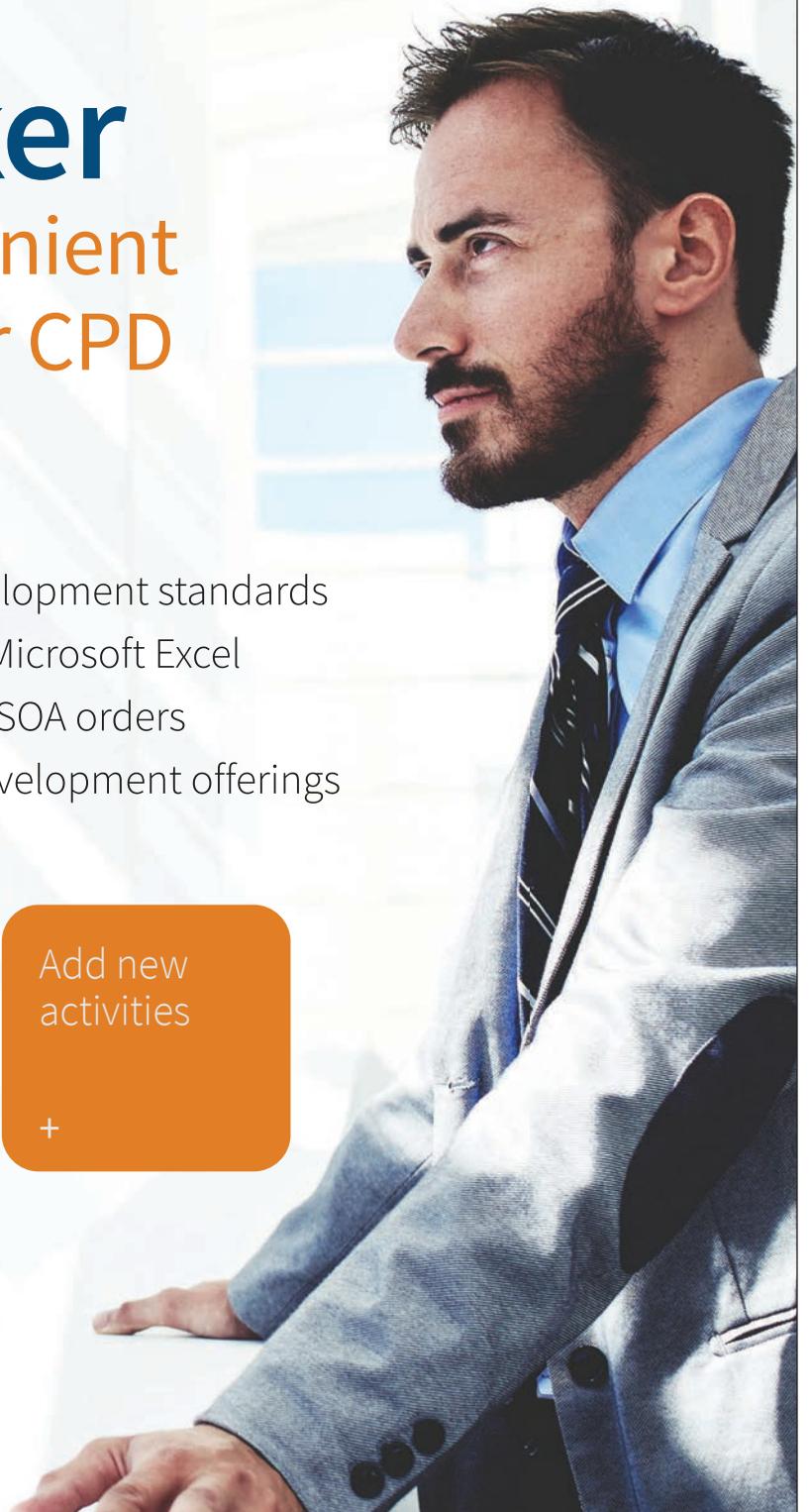
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Medicare Part D Settlements—A Primer

By Kate Herbig

For many Medicare actuaries, preparing bids for submission the first Monday in June is the culmination of their involvement in Medicare Part D. But it isn't the end of the story—during the plan coverage year, the Centers for Medicare & Medicaid Services (CMS) make monthly payments to plan sponsors based on these submitted bids. Then in the following year, these payments are adjusted based on actual claims costs, rather than bid projections, in a process known as Part D settlements. Part D plans are essentially financial intermediaries because they are federally funded and potential gains or losses are limited due to the risk-sharing arrangements with CMS; Part D settlements are a necessary part of this contractual arrangement.

Imagine this: You are an actuary responsible for monitoring experience for your company's Part D plans. When you make a simple comparison of total payments received from CMS and members versus payments out for claims, margins are looking great. However, when you estimate settlement amounts, you realize things don't look so rosy after all. Your prospective payments from CMS were higher than the associated claim costs, and your plan owes a significant settlement payment back to CMS. The large margins you were seeing in your initial calculation have disappeared. Some CMS payment components are considered "pass-through" payments, which will ultimately be trued up to actual costs through the settlement process, and should not be considered revenue.

It's important to estimate settlements well before the final true-up with CMS, which occurs roughly six to nine months after the end of the contract year. Anticipated future payments to or from CMS should be reflected in quarterly and year-end financial statements, impacting the total financial picture for the year—settlement payments equal to 5 to 10 percent of Part D revenue are not uncommon and could easily turn a projected profit into a loss if they are not accounted for properly. Part D settlement information will be reflected in the calculation of medical loss ratios, which are also settled with CMS after the end of the contract year, but calculated for Parts C and D in aggregate. In addition, due to the structure of the Part D benefit

design, cash flows vary throughout the year; thus, plan sponsors must hold early payments received when the plan costs are low to pay for potential higher plan liabilities later in the year.

STRUCTURE OF SETTLEMENTS

There are four components of the Part D settlements arrangement: federal reinsurance, low-income cost-sharing subsidy (LICS), coverage gap discount program (CGDP) and risk-sharing corridor. All settlement calculations are done on a plan benefit package (PBP) basis (same as the filed bids), and not combined at the contract or plan sponsor level. This has an impact on risk-sharing corridor calculations in particular, where losses in one PBP are not offset by gains in another prior to calculating settlement amounts.

Federal Reinsurance

The Part D benefit design includes a catastrophic threshold, defined as a level of member out-of-pocket spending (\$5,100 for 2019). Above this threshold, member cost sharing drops to 5 percent, plan liability is 15 percent, and CMS is liable for the other 80 percent of costs. The CMS liability is known as federal reinsurance. Plan sponsors estimate costs in the catastrophic phase and corresponding federal reinsurance during bid submission (due in June for the following bid year). CMS pays a prospective per member per month (PMPM) federal reinsurance payment to plan sponsors based on the filed bid amount. Once claims data is complete and final catastrophic claims costs are known, the reinsurance settlement is calculated as the difference between the actual CMS liability for catastrophic claims less prescription drug rebates allocated to reinsurance and total prospective reinsurance payments made to the plan sponsor. A positive value indicates that final costs were more than estimated, and a payment is made from CMS to the plan sponsor;



conversely, a negative value indicates a payment due from the plan sponsor to CMS.

LICS

Part D plan members with incomes below a certain percentage of the federal poverty level are identified as low-income (LI) members, and receive premium subsidies and reduced cost sharing. CMS pays the difference between filed plan cost-sharing and low-income cost-sharing levels as the LICS. As with reinsurance, plan sponsors estimate LICS costs during bid submission and receive a prospective PMPM LICS payment from CMS based on their bid. Once claims data is complete, calculation of the LICS settlement is analogous to the reinsurance settlement calculation.

CGDP

Once total claims costs exceed a level called the initial coverage limit (ICL), the member enters the coverage gap. Historically, members were responsible for all drug costs within the coverage gap until reaching the catastrophic threshold; however, non-low-income (NLI) member cost sharing in the gap has been gradually decreasing since the passage of the Affordable Care Act (ACA) of 2010 and will be 25 percent starting in 2020, equal to pre-ICL defined standard cost sharing.¹

For brand drugs filled by an NLI member, pharmaceutical manufacturers are responsible for 70 percent of drug costs in the gap. This is known as the coverage gap discount program. Plan sponsors invoice actual CGDP amounts to pharmaceutical manufacturers on a quarterly basis. As with other subsidies, plan sponsors estimate CGDP costs as part of bid submission and receive a prospective PMPM CGDP payment from CMS, which is reduced for amounts invoiced to manufacturers. Reconciliation occurs six months after the end of the year, after six quarterly invoices. CMS pays the plan sponsor (or receives from, for a negative value) the difference between total CGDP costs reported in experience less payments received via manufacturer payments and prospective payments.

Risk-Sharing Corridor

CMS shares financial risk with plan sponsors in the Part D program. A target amount is set using Part D basic premium and direct subsidy payments and excluding an estimated load for administrative costs and margin. Not all claim costs are subject to risk sharing; in particular, benefits in excess of the defined standard benefit plan design in Enhanced Alternative plans (e.g., lowered or eliminated deductibles, lower cost sharing and costs for supplemental drugs) are not subject to risk corridor settlements. Plan liabilities under defined standard coverage, less rebates and reinsurance settlements, are then compared with the target amount. Plan sponsors retain all risk within 5 percent of bid target, with CMS sharing in an increasing portion of both

upside and downside risk as variation of actual costs from targets increases. Table 1 shows the relative shares of risk for CMS and plan sponsors at different ratios of actual experience to the target cost.

Table 1
Relative Shares of Risk for CMS and Plan Sponsors

Actual Compared With Target	Plan Share	CMS Share
<90%	20%	80%
90 to 95%	50%	50%
95 to 105%	100%	0%
105 to 110%	50%	50%
>110%	20%	80%

As with reinsurance, LICS and CGDP settlements, risk corridor settlements are determined once final annual claims costs are known. Unlike with other settlement amounts, the assumption at bid submission is that risk corridor settlements will be \$0—that is, that claim costs will match bid projections—therefore, no prospective risk corridor payments are made prior to settlement.

TIMING OF CASH FLOWS

While reinsurance and LICS subsidy payments are steady throughout the year, associated claims costs are not. Reinsurance costs, which are \$0 until members reach the catastrophic threshold, are generally low at the beginning of the year and increase throughout the year, as members' year-to-date costs grow. LICS costs also generally vary over time, with high subsidies during the deductible phase, lower subsidies needed in the pre-ICL coverage phase where standard plan cost sharing is lower, and higher subsidies as members reach the coverage gap and catastrophic phase. Figure 1 shows what the reinsurance subsidy cash flows may look like for a plan.

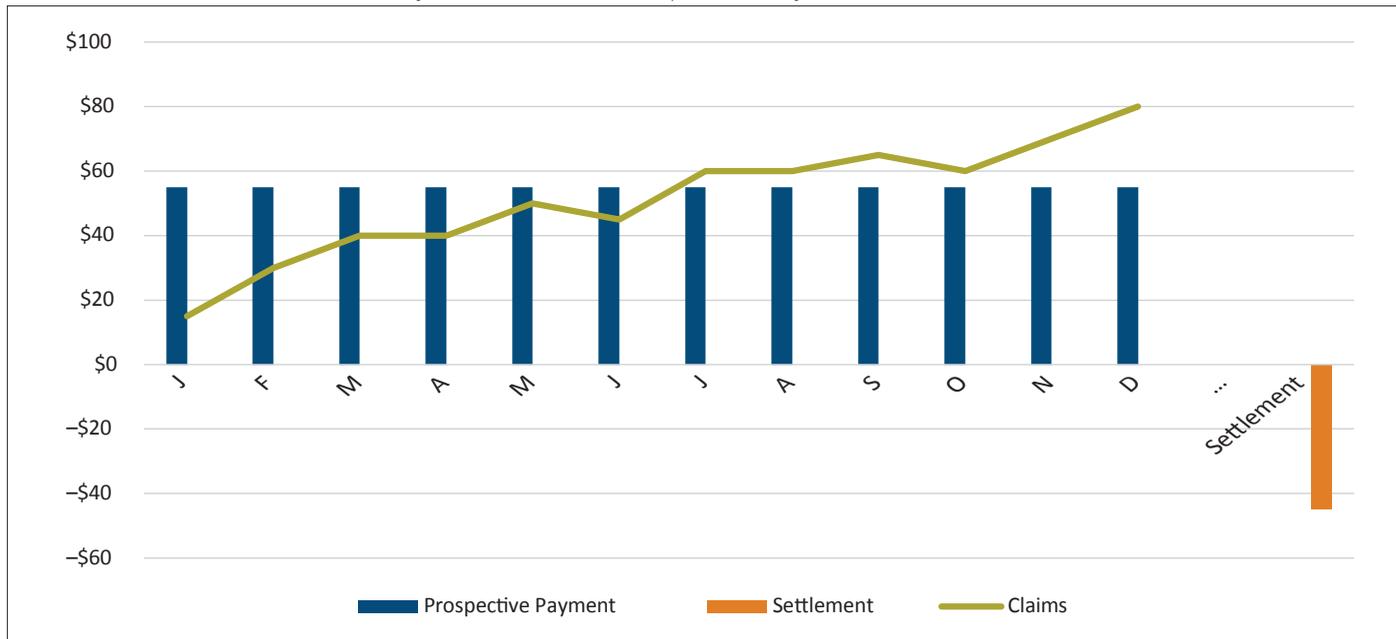
In this example, a plan sponsor receives \$55,000 per month from CMS. Reinsurance costs are \$15,000 in January, well below the monthly prospective payment, and grow to \$80,000 over the course of the year. When settlement true-up happens, the plan sponsor has received \$45,000 more in reinsurance subsidy payments than has actually been paid out in claims and must repay this money to CMS.

CONCLUSION AND OTHER CONSIDERATIONS

This article discussed the basics of Part D settlements. When estimating settlements, there are a number of other important considerations, including:

- **The impact of Part D risk scores changes.** Risk scores change midyear, leading to changes in prospective payments received from CMS. They also change after the end

Figure 1
Illustrative Federal Reinsurance Payments and Actual Experience by Month (\$000s)



Note: For simplification, the example in this chart does not incorporate any membership changes or other adjustments that may impact the prospective payment amounts.

of the year, due to lagged diagnosis data runout. Risk scores impact the direct subsidy payments received from CMS, and in turn will affect profit margins and thus risk corridor settlements.

- **Impact of rebate projections.** Differences in actual rebates received versus those projected affect both reinsurance and risk corridor settlements. Plan liability is calculated net of rebates, so higher than projected rebates will lower plan liability and increase any potential settlement payments to CMS, or decrease the receivable from CMS.
- **Seasonality and midyear projections.** Projecting settlements with a partial year of data requires additional consideration. Part D cost components and plan membership are not level throughout the year, and the seasonality patterns may differ from plan to plan. Care is needed to project cost components on a month-by-month basis for those months that do not yet have data. Midyear changes in the mix of NLI versus LI mix will also impact final settlement projections, since CGDP payments apply only to NLI members, while LICS applies only to LI members.
- **Treatment of employer group waiver plans (EGWPs).** EGWPs are not subject to all settlements received by individual plans. EGWPs do not receive risk-sharing corridor payments. In addition, EGWPs with a noncalendar

contract year do not receive reinsurance payments either and are, therefore, not subject to reinsurance settlements.

For a full picture of a Medicare Part D plan’s financial performance, it is necessary to understand how settlements will impact ultimate financial results. Some costs are the sole responsibility of the plan sponsor, while others will be shared with CMS. Some payment components are final, while others are pass-through payments that will be trued up to actual costs. Recognizing which expenses and payments are which is important when monitoring a plan’s health. It is also crucial to monitor expected settlement payments over time to avoid surprises at the time of settlement. ■



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ENDNOTE

1 The defined standard benefit design is divided into phases, with a deductible, 25 percent coinsurance for allowed costs up to an ICL, gap cost sharing until member out-of-pocket spending hits an out-of-pocket limit known as the true out-of-pocket (TrOOP) limit, and catastrophic cost sharing of roughly 5 percent thereafter. For 2019, the deductible is \$415, the ICL is \$3,820, and the TrOOP limit is \$5,100. Gap coinsurance is 37 percent for generics and 25 percent for brand drugs in 2019 for non-low-income members.

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Long-Term Services and Support Services in Medicare Advantage Plans: 2019 Market Landscape and Challenges Ahead

By Pedro Alcocer, Robert Eaton and Pamela Laboy

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In April 2018, the Centers for Medicare & Medicaid Services (CMS) published a revised definition of primarily health-related (PHR) benefits as applicable to Medicare Advantage (MA) organizations.¹ CMS expanded the definition of a primarily health-related service starting in calendar year (CY) 2019 as one that is “used to diagnose [or] compensate for physical impairments, acts to ameliorate the functional/psychological impact of injuries or health conditions, or reduces avoidable emergency and healthcare utilization.” These services are often used by individuals with chronic conditions in need of long-term services and support (LTSS). Many of these services are the same that private long-term care (LTC) insurance covers and reimburses.

This article addresses how the MA marketplace responded in 2019 to CMS’s expanded definition of primarily health-related benefits, including which supplemental benefits plans are offering and where these benefits are offered. Finally, we will discuss the demand and costs for LTSS-type assistance among the elderly and the challenges that MA plans may face in developing these benefits.

2019 SUPPLEMENTAL BENEFITS UNDER THE EXPANDED PHR DEFINITION

CMS’s April 2018 guidance letter presented nine possible supplemental benefits that could be offered starting in CY 2019 under the expanded PHR definition. We surveyed the approved MA benefit information for all organizations that submitted a CY 2019 bid, as published on *CMS.gov*,² and found that many

plans are offering some of these supplemental benefits in 2019. Figure 1 shows six of the nine supplemental benefits described in CMS’s memorandum along with the number of plans covering them.

Figure 1
2019 MA Plans Offering CMS’s Suggested Benefits Under Expanded PHR Definition

2019 Supplemental Benefit	Count of Plans
Adult day care services	2
Home-based palliative care	8
In-home support services	60
Support for caregivers (aka respite care)	421
Medically approved nonopioid pain management	None found*
Stand-alone memory fitness	None found*

* These benefits may potentially be offered as part of a larger package.

Although the CMS guidance also included home and bathroom safety devices and modifications (plan benefit package, or PBP, 14c), transportation (PBP B10b), and over-the-counter (OTC) benefits (PBP B13b), we did not include these benefits in our analysis, as they are not new to CY 2019. While we were unable to definitively identify plans offering these benefits in CY 2019 under the revised definition, our research showed a significant increase in the number of plans that offered bathroom and safety devices and transportation services in CY 2019.

In addition to CMS’s list of nine potential new benefits under the revised PHR definition, we identified additional “other supplemental benefits” for 2019 that appear to qualify under the expanded PHR definition. We identified these potential benefits based on the descriptions outlined by CMS in its April 2018



Figure 2
2019 MA Plans Offering New PHR Benefits in Addition to Those Outlined by CMS

New 2019 Benefit	Count of Plans
Activity tracker/fitness tracker	7
Alzheimer's/dementia bracelet: wandering support service	3
Backup support for medical equipment	2
Housekeeping	1
Nonskilled home health	8
Personal care/personal care services/personal home care	47
Restorative care benefit	4
Social worker line	91
Supportive care	5
Therapeutic massage	1
Vial of Life Program	10

guidance. Figure 2 shows the count of MA plans offering these additional benefits in 2019.

LTSS SERVICES IN 2019 MA PLANS

Many of the services in Figures 1 and 2 (such as respite care and personal home care) are LTSS-type assistance that qualify under the primarily health-related benefit expansion.

We found 577 MA plans that offer LTSS-type benefits in 2019 by searching in the other supplemental benefit descriptions for key words representing LTSS benefits, such as adult day care, in-home support and nonskilled home health.³ Figure 3 lists the

Figure 3
2019 MA Plans Offering LTSS-Type Benefits, Count by Plan Type

Network/Plan Type	Non-Special-Needs Plans	Dual Eligible SNP	Chronic or Disabling Condition SNP	Institutional SNP	Total
HMO	340	62	25	6	433
LPPO	91	7	2	0	100
HMO-POS	18	3	0	0	21
PFFS	2	0	0	0	2
RPPO	11	4	6	0	21
Total	462	76	33	6	577

Note: HMO = health maintenance organization, LPPO = local preferred provider organization, HMO-POS = HMO with place of service benefit, PFFS = private fee-for-service, RPPO = regional preferred provider organization.

number of MA plans offering LTSS-type benefits in 2019 by plan type.

Finally, we show where these plans are concentrated nationwide, illustrating a heat map of the United States. Figure 4 highlights which counties have the most MA plans with LTSS benefits. Figure 5 shows the counties with the highest density of plans offering LTSS-type benefits for each MA-enrolled member as of January 2019.

LTSS DEMANDS AND COSTS

The benefits approved by CMS for 2019 MA plans cover some of an individual's long-term support needs. From the MA plan data we surveyed, the benefits offered cover only a small subset of the potential needs of someone requiring long-term custodial care.

More broadly, LTSS encompasses the services and support that individuals may require for their health over a long period of time. These services are most important for individuals who are chronically ill—unable to perform some of their activities of daily living⁴ (ADLs) or suffering from severe cognitive impairment.

How many people are chronically ill in the United States, and what may LTSS services mean to them financially? To understand this, we review some nationwide data.

The number of people in the United States expected to need LTSS is growing. In part, this stems from general improvements in population mortality: More people now survive to older ages and, consequently they have more LTSS needs. The U.S. Department of Health and Human Services (HHS) estimates that about half (52 percent) of Americans turning 65 will require long-term care services at some point over the remainder of their lives due to limitations with multiple ADLs or severe

Figure 4
MA Plans Offering LTSS-Type Benefits, by County

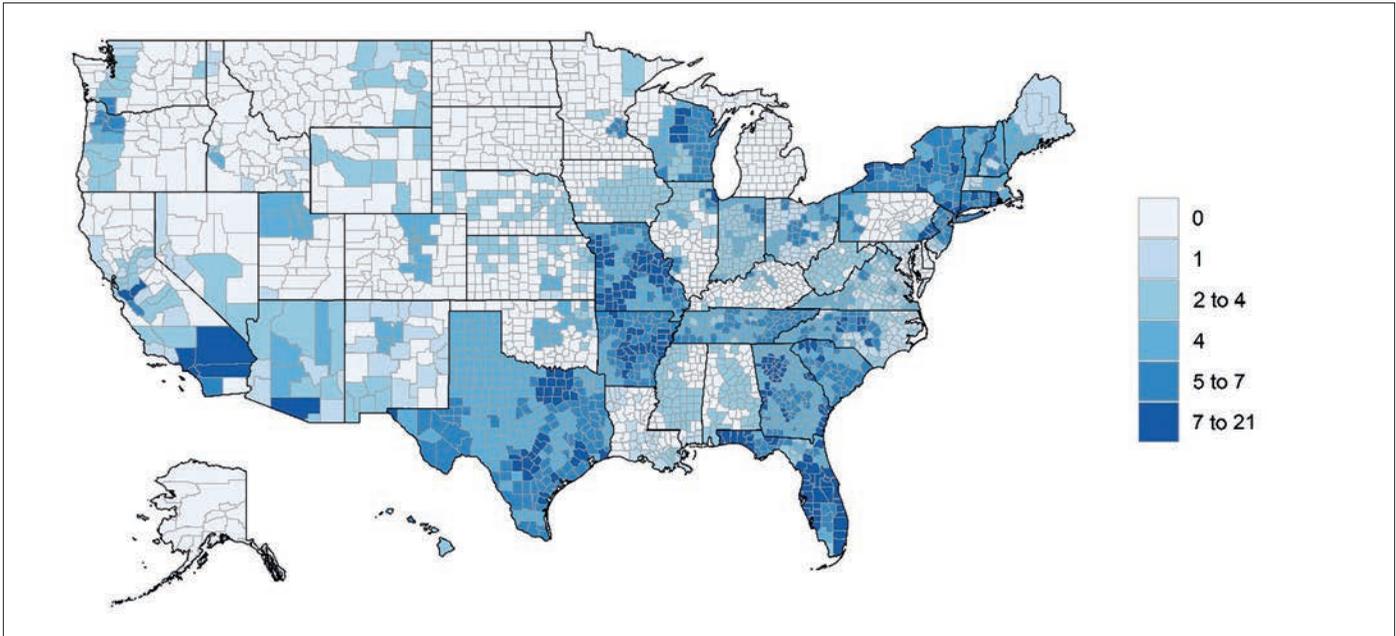
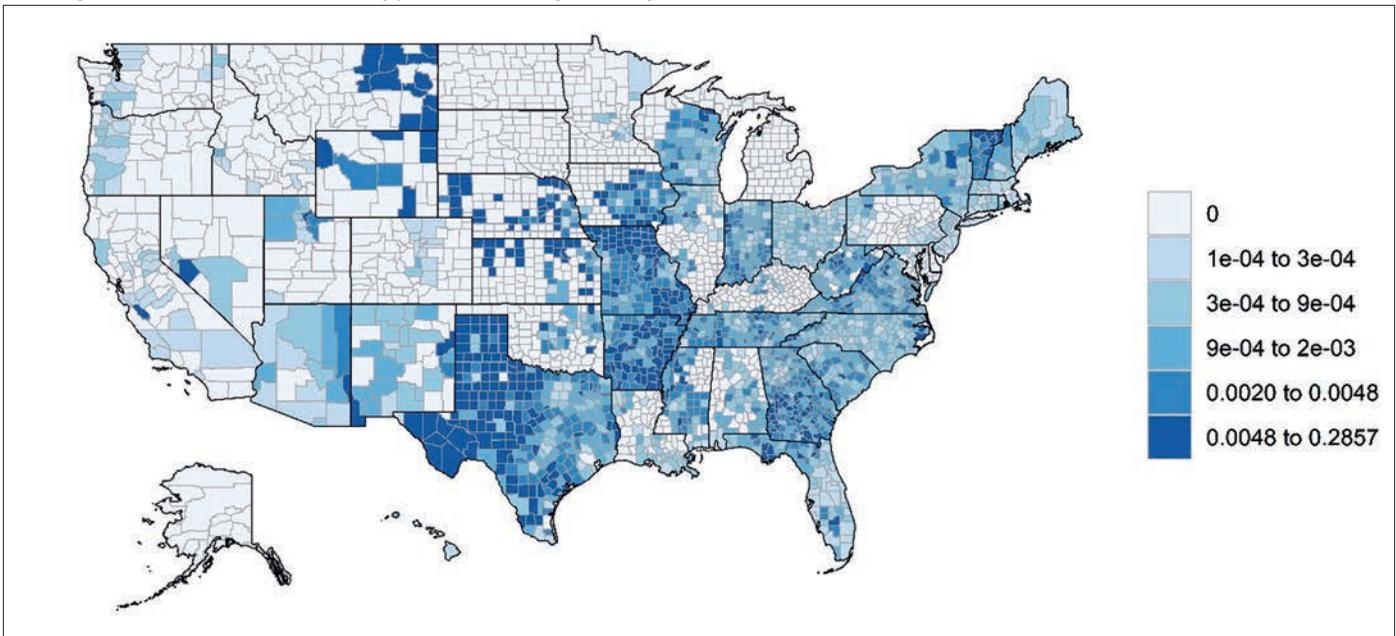


Figure 5
Density of MA Plans With LTSS-Type Benefits, by County





cognitive impairment.⁵ A January 2019 Issue Brief from the Commonwealth Fund found that, for Medicare beneficiaries age 65+, 28 percent had a high LTSS need and 33 percent more had a limited LTSS need, while only 39 percent had no LTSS need.⁶ Medicare beneficiaries who had income under 200 percent of the federal poverty line (FPL), or who were eligible for Medicaid, had even higher rates of LTSS need.

Research by the Society of Actuaries (SOA) published in 2016,⁷ based on the National Long Term Care Survey (NLTC) through 2004, shows seniors face disability rates that increase by age. Figure 6 shows a selection of disability rates for seniors needing assistance with instrumental activities of daily living (IADLs), such as doing laundry, managing finances or doing light housework,⁸ as well as disability rates for seniors needing assistance with one or more ADLs. Note that Figure 6 shows information as of 2004 and for disability triggers specified by the NLTC.

Figure 6
Disability Group Estimates (%) by Age

Age Range	Severity of Disability	
	IADL Only	1 or More ADLs
65–74	1.79%	6.22%
75–84	2.54%	15.20%
85+	4.23%	29.92%

Note: NLTC age-standardized to 2004 U.S. population

Source: Stallard, P.J. Eric, and Anatoliy I. Yashin. 2016. Long Term Care Morbidity Improvement Study: Estimates for Non-Insured U.S. Elderly Population Based on the National Long Term Care Survey 1984–2004. Society of Actuaries report. <https://www.soa.org/Files/Research/Projects/research-2016-06-ltc-morbidity-improvement.pdf>.

But what costs do the disabled or chronically ill face? For those needing round-the-clock assistance, a semiprivate room in a nursing home may cost between \$90,000 and \$100,000

annually.⁹ Figure 7 shows the 2018 median annual costs for various levels of LTSS care and the recent annual trend in costs.

Figure 7
Median Annual Costs and Trends of Certain LTSS

Description	Annual Cost	Annual Cost Trend
Semiprivate room in a nursing home	\$89,297	3%
Home health aide	\$50,336	3%
Care in an adult day health care center	\$18,720	2%
Assisted living facility	\$48,000	3%

Source: Genworth. Cost of Care Survey 2018. Accessed Feb. 5, 2019. <https://www.genworth.com/aging-and-you/finances/cost-of-care.html>.

HHS indicates that most of these LTSS services will be funded by out-of-pocket expenditures (55.3 percent) or through Medicaid (34.2 percent).¹⁰ Because private LTC insurance premiums are expensive and less healthy individuals will not pass underwriting, only a few insurance-type options are available.

A CHALLENGE FOR MA PLANS

The LTSS-type benefits that we see MA plans offering in 2019 appear to be more in line with lower-cost benefits, such as providing in-home support services or adult day care. Nevertheless, MA organizations need to be aware of the large potential demand for LTSS services. In particular, CMS does not require that LTSS-type PHR benefits in MA plans be triggered by the inability to perform ADLs or severe cognitive impairment.¹¹ While an organization will decide for itself any restrictions on PHR benefits within the rules established by CMS, looser eligibility requirements may imply higher benefit utilization than traditional LTC insurers see.

On Jan. 30, 2019, CMS’s Advanced Notice letter¹² laid out expanded MA benefits that plans may offer, labeled “Special Supplemental Benefits for the Chronically Ill” (SSBCI). SSBCI are non-PHR LTSS benefits available to enrollees if the services have a “reasonable expectation of improving or maintaining the health or overall function of the enrollee as it relates to the chronic disease.” Chronically ill enrollees must meet strict criteria,¹³ but “MA organizations have broad discretion in developing items and services they may propose as SSBCI.”

For people retiring today, financing an LTSS need is a major concern for maintaining adequate retirement funds. Seniors may be looking for new ways to obtain coverage for some of these LTSS benefits. The MA market is slowly expanding coverage to include more LTSS services, as seen in the expanded definition of PHR benefits for CY 2019 and the SSBCI starting in 2020. Given the high demand and potential high costs of LTSS-type benefits, MA plans must make careful considerations when offering LTSS coverage as they enter into the 2020 bid season. ■



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ENDNOTES

- 1 Coleman, Kathryn, to Medicare Advantage Organizations and Section 1876 Cost Contract Plans. “Reinterpretation of ‘Primarily Health Related’ for Supplemental Benefits.” CMS memorandum. April 27, 2018. <https://www.nahc.org/wp-content/uploads/2018/05/HPMS-Memo-Primarily-Health-Related-4-27-18.pdf>.
- 2 We focused our survey in benefits 13d, e and f, which are the benefit categories in the plan benefit package (PBP) for “Other supplemental services.”
- 3 The complete list of LTSS-type benefits in these data: adult day care, backup support for medical equipment, caregiver services, home-based palliative care, in-home support, in-home support services, nonskilled home health, outside service area benefit, palliative care, personal care, personal care services, personal home care, restorative care benefit, supportive care and supports for caregivers.
- 4 The six ADLs that trigger most LTC insurance benefits are bathing, continence, dressing, eating, toileting and transferring.
- 5 Favreault, Melissa, and Judith Dey. Long-Term Services and Supports for Older Americans: Risks and Financing Research Brief. *U.S. Department of Health and Human Services*, July 1, 2015, revised February 2016. <https://aspe.hhs.gov/basic-report/long-term-services-and-supports-older-americans-risks-and-financing-research-brief>.
- 6 Willink, Amber, Judith Kasper, Maureen E. Skehan, Jennifer L. Wolff, John Mulcahy and Karen Davis. Are Older Americans Getting the Long-Term Services and Supports They Need? Commonwealth Fund, *Issue Brief*, Jan. 24, 2019. <https://www.commonwealthfund.org/publications/issue-briefs/2019/jan/are-older-americans-getting-LTSS-they-need>.
- 7 Stallard, P.J. Eric, and Anatoliy I. Yashin. 2016. Long Term Care Morbidity Improvement Study: Estimates for Non-Insured U.S. Elderly Population Based on the National Long Term Care Survey 1984–2004. Society of Actuaries report. <https://www.soa.org/Files/Research/Projects/research-2016-06-ltc-morbidity-improvement.pdf>.
- 8 Ibid. A complete list of these IADLs can be found on page 16.
- 9 Genworth. Cost of Care Survey 2018. Accessed Feb. 5, 2019. <https://www.genworth.com/aging-and-you/finances/cost-of-care.html>.
- 10 Supra note 5.
- 11 The April 2018 guidance specifies that the expanded supplemental benefits must “focus directly on an enrollee’s health care needs and be recommended by a licensed medical professional as part of a care plan ...”
- 12 Centers for Medicare & Medicaid Services. Advance Notice of Methodological Changes for Calendar Year (CY) 2020 for Medicare Advantage (MA) Capitation Rates, Part C and Part D Payment Policies and 2020 Draft Call Letter. Jan. 30, 2019. <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Advance2020Part2.pdf>.
- 13 A chronically ill enrollee according to the Bipartisan Budget Act of 2018 is one who:
 1. has one or more comorbid and medically complex chronic conditions that is life-threatening or significantly limits the overall health or function of the enrollee;
 2. has a high risk of hospitalization or other adverse health outcomes; and
 3. requires intensive care coordination.

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Provider Risk Sharing and Random Noise

By Tom Messer

Spurred by Medicare, state actions and the zeitgeist of the moment, provider groups are assuming financial risk for medical costs. These groups range from long-standing provider groups with substantial infrastructure to newly formed provider entities armed with the buzzwords “value-based contracting.”

The less-sophisticated providers will have a rocky time. Insurance companies understand pricing is sometimes too high and sometimes too low. There are techniques (pricing margin, statutory reserve) to address this risk. For hospitals or physicians, there is nothing comparable. Prior enthusiasm for provider risk sharing in the 1990s was curbed by financial difficulties.¹ The explosive demise of FPA Medical Management, a national physician management company, is a case in point.² Actuaries need to forewarn insurers and providers of the risks for these contracts to be sustained.

A risk-sharing contract requires the provider entity to control costs below a set target for a one-year period. Any difference between actual costs and the target are shared between insurer and provider.

The difference can have a number of causes. The provider entity may provide strong medical management.³ A target may be unfairly set to one party’s advantage. No doubt there are many other causes. The interest of this article is how random fluctuations affect financial savings.

A provider contracting entity is the corporate entity that reaches agreement with the insurer. The provider contracting entity may have separate agreements with physician groups or hospitals to negotiate a risk-sharing contract on their behalf. This extra distance may be required by state regulation and limits the risk of the underlying medical providers.

Assume the corporate entity is an independent practitioner association (IPA) for specificity and to avoid the clumsiness of “provider contracting entity.” The same threats loom over other provider entities.

As a straw man, consider the situation where an insurer enters into a risk-sharing agreement with an IPA. Assume that the IPA has a certain base year experience. Assume all parties genuinely expect and agree on a fairly set target for measurement year experience.

For this straw man, the provider will receive 50 percent of the savings if the actual experience is lower than the target. If actual experience is above the target, the IPA does not have to pay anything back to the insurer. This is a “one-sided” or “upside-only” contract.

ONE-SIDED RISK-SHARING AGREEMENTS

Many IPAs are only capable of agreeing to an upside-only contract. They may not have the reserves to meet statutory or insurer requirements, or they may not have the inclination to take downside risk.

A digression: An investment adviser starts eight investment newsletters. The adviser predicts yearly market gains in four newsletters and losses in four. After the first year, the adviser quits publishing the four that are wrong. The adviser repeats this process with the four remaining newsletters for two more years. Finally, there is one newsletter that predicted the market for three years running. The adviser now advertises this success.

My suspicion is that IPAs are less cynical than the investment adviser. Nonetheless, a good place to start is to assume that the IPAs have no capability to influence costs. This is reasonable in many situations. An IPA that is just starting may not have the infrastructure prepared for the necessary medical management, may not have the data to evaluate its level of medical management, or may not even have well-established goals.



In this case, like the newsletter, outcomes are random. Roughly half the time costs will be below the target and half the time above the target. Since there is no penalty to the IPA for costs above the target, the IPA will have an average gain over a period of years.

Let's assume the measurement year costs for a single individual sampled from the population follow a distribution around the target with a standard deviation equal to four times the mean. Based on my experience, a ratio of 4 is within the range of reasonableness for total costs of a commercial population with no stop-loss or other reinsurance. This ratio may not be appropriate for all commercial populations and is probably too high for Medicaid or Medicare populations. Other estimates on the level of fluctuation are available.⁴

While the distribution of costs for a single individual will be skewed, the costs over a provider panel should approximate a normal distribution. If a provider group has 10,000 members, the standard deviation for the average per member per month costs would be $4/\sqrt{10000} = .04$ or 4 percent of the average. A bit of calculus shows that there will be savings of 1.6 percent due solely to random fluctuations. The contract between the provider and the insurer would determine what portion of that savings is paid to the provider. Table 1 breaks this down for different size groups.

Table 1
Sample Random Variation and Savings in One-Sided Contracts

Panel Size	Standard Deviation as a Percentage of Total Costs	Expected Total Savings due to Randomness
2,500	8.0%	3.2%
5,000	5.7%	2.3%
10,000	4.0%	1.6%
20,000	2.8%	1.1%
40,000	2.0%	0.8%

Under our assumption of 50 percent risk sharing, the pricing actuary would have to add 0.8 percent to premium rates for the portion of business represented by this provider entity.

There will be occasions where there is a very large deviation simply because of chance. A provider with a panel size of 2,500 will show 4 percent or more savings roughly 30 percent of the time.

The assumption that provider performance has “no effect” is cynical and pessimistic. However, issues with random noise remain even if the provider performs successfully. For example,

if an IPA's actions lower experience by 4 percent but random noise adds 3 percent, there will be only 1 percent total savings.

TWO-SIDED RISK-SHARING AGREEMENTS

Over the long run, random fluctuation should even out in a two-sided agreement, with symmetric upside and downside risk. However, in the long run, some IPAs will be dead.

Having responsibility for losses is a transfer of insurance risk. The IPA must provide evidence of solvency under adverse circumstances by either law or contract or both. This requires additional solvency guarantees (for example, a letter of credit) from an entity without deep resources for funding. A few consecutive bad years can sink the IPA.

CHANGES FROM YEAR TO YEAR

Year-to-year fluctuations are familiar to actuaries but will surprise provider groups.

Again, consider the agreement between an insurer and an IPA with 10,000 members. Again, there is no improvement in cost containment: The deviations from the measurement targets are solely due to randomness.

The standard deviation of experience is 4 percent, as above. This implies a 10 percent chance that the experience will be 2 percent or more below the target the first measurement year but 2 percent or more above the target the second measurement year. The IPA's experience worsened by 4 percent or more.

Unsophisticated provider groups' reactions may include denying the results, questioning the data or blaming “one-time” catastrophic events. In a one-sided agreement, the IPA may have been counting on the same risk-sharing amount as last year to fund operations. In a two-sided agreement, the provider group will have to reach into its own funds. Presumably, the IPA had a letter of credit or other guarantee mechanism that has to be replenished.

In my experience, insurers make concessions because the insurer “needs” the provider group. This could include writing off the amount owed, providing unearned cash to the provider entity or delaying collection. A judgment on the frequency and size of concessions must be included in pricing.

These swings worsen if the target changes from one year to the next. If a provider has a successful first year, the target may be lowered for the second measurement year to reflect this “success.” Any “regression to mean” the following year implies no gain for the IPA (in a one-sided arrangement) or even a large loss (in a two-sided arrangement).

A good place to start is to assume that the IPAs have no capability to influence costs.

SURVIVOR BIAS

Over time, some contracts between insurers and IPAs will fall by the wayside, undone by bad luck, bad performance or both. The remaining provider entities will have had better-than-average success.

One possibility is that the improvement is due to IPA performance. Both the insurer and the provider entity would gain.

A second possibility is that the targets were not set appropriately. For example, some provider entities will perform better or worse by the nature of the communities they serve. Class, race, sex and other variables affect relative expense.

Say a contract calls for a percentage of premium to be passed from the insurer to the IPA. IPAs composed of provider groups that have systematically favorable targets will persist. Other IPAs will gradually fail or withdraw from the contract. A survivor bias will raise costs for the insurer.

The situation worsens as IPAs become more sophisticated. IPAs will examine history and include only those provider panels that are profitable. The insurer's actuary must reflect the increased costs in premium pricing.

CONCLUSION

Risk sharing with provider entities without successful medical management can only raise premiums. This is particularly true for smaller providers with little infrastructure. Pricing actuaries will need to estimate the direct effect of random fluctuations, the indirect effect of concessions to providers and the savings from medical management. Hopefully, this article outlines some of the considerations.

Actuaries will be educating provider contracting departments for both health plan and provider entities on these considerations.

The sooner this starts, the more likely the transfer of risk can be accomplished in an equitable manner.

Actuaries should consider

1. Evaluating the sophistication, infrastructure and medical management capability of the provider group
2. Estimating the random variability for populations across years
3. Advising whether there is sufficient panel size to justify a risk-sharing contract
4. Advocating limits to upside or downside provider risk sharing
5. Modeling the likelihood of an IPA continuing (or going insolvent) under assumptions of bad luck
6. Including these effects in premium pricing

Sometimes these estimates will be crude or back-of-the-envelope. Still, our clients will be well served by being forewarned. ■

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ENDNOTES

- 1 Glabman, Maureen. Downstream Without a Paddle: State Legislatures That Tackle Medical Group Insolvencies Have Come up With Strategies That Sometimes Shift Accountability to HMOs. *Managed Care*, Dec. 1, 2000. <https://www.managedcaremag.com/archives/2000/12/downstream-without-paddle>.
- 2 Brewster, Linda R., Leslie A. Jackson and Cara S. Lesser. Insolvency and Challenges of Regulating Providers That Bear Risk. Center for Studying Health System Change, *Issue Brief* no. 26, February 2000. <http://www.hschange.org/CONTENT/56/index.html>.
- 3 By "medical management," I am including the full range of possible provider actions, including steering to efficient providers, disease or care management, utilization management, contract negotiations, bundled payments, etc.
- 4 Weissman, Joel S., Michael Bailit, Guy D'Andrea and Meredith B. Rosenthal. 2012. The Design and Application of Shared Savings Programs: Lessons From Early Adopters. *Health Affairs* 31, no. 9:1959-68. <https://doi.org/10.1377/hlthaff.2012.0383>; Dugan, Chris, Howard Kahn and Robert Parke. 2015. Payer and Provider "Checklist" for Alternative Payment Arrangements. Milliman Healthcare Reform Briefing Report. <http://us.milliman.com/insight/2015/Payer-and-provider-checklist-for-alternative-payment-arrangements/>.

The Role of Blockchain Technology in Our Health Care Delivery System

By Rajesh Munjuluri and Puneet Budhiraja

The U.S. health care system primarily consists of three entities: provider systems that deliver health services, patients who receive these services and payers (health plans and the government) that pay for these services. Each of these entities has its own unique challenges and their business objectives often conflict, leading to suboptimal outcomes. While patients grapple with affordability, access and fragmentation of care, providers are hard-pressed to seek improvements in resource efficiency and to address the causes of medical errors. At the same time, payers are constantly battling overutilization of services and increasing medical trends. Many of the challenges faced by patients, payers and providers commonly point to the need for a patient-centric model.

Over the last decade, our government agencies have encouraged a wider role for the providers in which their responsibility for patient health extends beyond the confines of their facilities to other downstream health systems rendering care. We see this play out in the Medicare Shared Savings Program models (MSSPs) and alternative payment models (APMs) and under the provisions of the Merit-Based Incentive Payment System (MIPS).

The Office of the National Coordinator for Health Information Technology (ONC) has laid out an interoperability road map¹ for achieving a “learning health system that promotes a patient-centric model where providers have a seamless ability to securely access and use health information from different sources.” While big changes to interoperability are expected in the coming decade, as of now, patient electronic health records (EHRs) are not easily shared across all of the providers that are part of the care continuum, as they are typically tethered to the site of their origin.

The goal of this article is to encourage actuaries and other stakeholders to seek information and knowledge on an emerging technology called blockchain, which has the potential to radically change the way health care is delivered and administered.



In this article, we will describe how a blockchain system works through a hypothetical example, discuss how this technology functions and explore the implications to actuarial endeavors in the future.

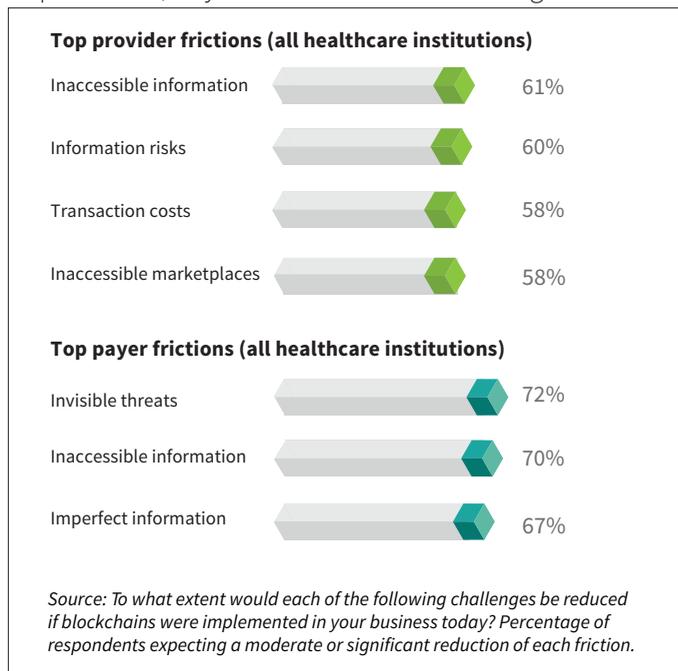
THE CURRENT SITUATION

Patient care often involves multiple clinicians who may not share information with one another. This often results in care being siloed or uncoordinated.

Duplication of services and clinical decision-making with imperfect information are all too common in the current system. Addressing the problem of fragmented care would require uninhibited sharing of all clinical records among independent providers participating in the patient's episode of care. Perhaps the most important first step in this process is the adoption of electronic health records. Although EHR adoption rates among physician practices doubled from 2008 to 2015,² the current system does not facilitate a seamless flow of accurate clinical information across various points in the care continuum.

Recently, the Institute for Business Value at IBM sponsored a survey of 200 health care executives of both payers and providers in 16 countries to gain insights into their thinking with regard to blockchain adoption.³ Figure 1 illustrates some of the concerns providers and payers expressed. Both providers and payers pointed to “data and information” related risks among the top impact areas. Information risks refers to the risk of technology breaches and tampering; inaccessible information to the shortage of information arising from standards issues; shortage of scalable computing power and storage; and imperfect information to decision-making impeded by inaccurate, misleading or incomplete information. Other reports have pointed to growing expectations of blockchain adoption by the health care industry.

Figure 1
Top Provider, Payer Concerns Blockchain Might Address



Source: IBM Institute for Business Value. 2016. Healthcare Rallies for Blockchains: Keeping Patients at the Center. Executive Report: Healthcare and Blockchain. <https://www.ibm.com/downloads/cas/BBRQK3WY>. Reprinted by permission.

A 2018 Research and Markets analysis says, “The global blockchain in the health care market is estimated to amount to \$5.61 billion by 2025, witnessing a double-digit growth throughout the forecast period of 2018–2025.”⁴

BLOCKCHAIN TECHNOLOGY

Blockchain is a distributed ledger technology that enables digital assets to be transacted and traded in near real time. Each block represents a set of transactions that are cryptographically linked to one another, which makes them immutable.

There are two types of blockchain systems:

1. **Public blockchain.** Anyone can participate in this network. These are decentralized because no single entity has control over the network. This is also called a permissionless blockchain because the user’s anonymity is protected. Anyone can read or write data to the blockchain. An example is the bitcoin network, where users can send and receive bitcoins.
2. **Private blockchain.** Entities come together to form permissioned networks. These networks are not open to all, and they operate in a similar fashion to a centralized database. One or more entities within the network may have

control over it. Since these are permissioned, the identities and roles of users are well known. An example is the collaborative initiative among Aetna, Anthem, Health Care Service Corp., PNC Bank and IBM to establish a blockchain-based ecosystem.

UNDERSTANDING THE APPLICATION WITH A HYPOTHETICAL EXAMPLE

Patient care often involves multiple clinicians who may not share information with one another. This often results in care being isolated or uncoordinated. As a result, the patient suffers because the quality and efficiency of care are compromised. The provider is potentially exposed to costly medical errors that could have been easily prevented. The payer is negatively impacted because of exposure to unnecessary utilization from duplication of some services.

Blockchain technology has the potential to solve the problem of fragmented care by enabling the sharing of all health information across independent providers involved in the patient’s continuum of care. We will use a hypothetical situation to see how the technology may be applied to improve patient and provider experiences.

Mr. Smith is examined by his primary care physician, Dr. Summer. The electronic health record (EHR) related to this service is stored in a centralized database at Dr. Summer’s facility. A week later, Mr. Smith visits Dr. Winter, a specialist. Dr. Winter’s facility requests a copy of the EHR.

Under the current system, when Mr. Smith sends his EHR to Dr. Winter using encryption technology, they both want to be certain of two things:

- The EHR is indeed that of Mr. Smith
- The EHR has not been changed either intentionally or unintentionally while in transit

Figure 2 depicts the transactions that will need to occur in order for a permissioned, secure transfer of the EHR from Mr. Smith to Dr. Winter.

Many of the challenges faced by patients, payers and providers commonly point to the need for a patient-centric model.

The blockchain system being discussed for purposes of this example is a private, permissioned and closed blockchain. It is “closed” because permission to read data has to be granted by the owner to specific participants in the private network based on need. In this system, stewardship of health data resides with the patient, not with the health care provider. Systems like these can be built on the Hyperledger⁶ platform because it offers the flexibility to manage multiple permissions while addressing privacy concerns. The patient has the ability to grant (or deny) access to the EHR to any provider or other entity. As noted in Figure 2, data resides on the blockchain in an encrypted format.

POTENTIAL BLOCKCHAIN USES FOR HEALTH CARE

Blockchain could solve many issues, such as fragmentation of care, administration problems and data privacy. With the patient

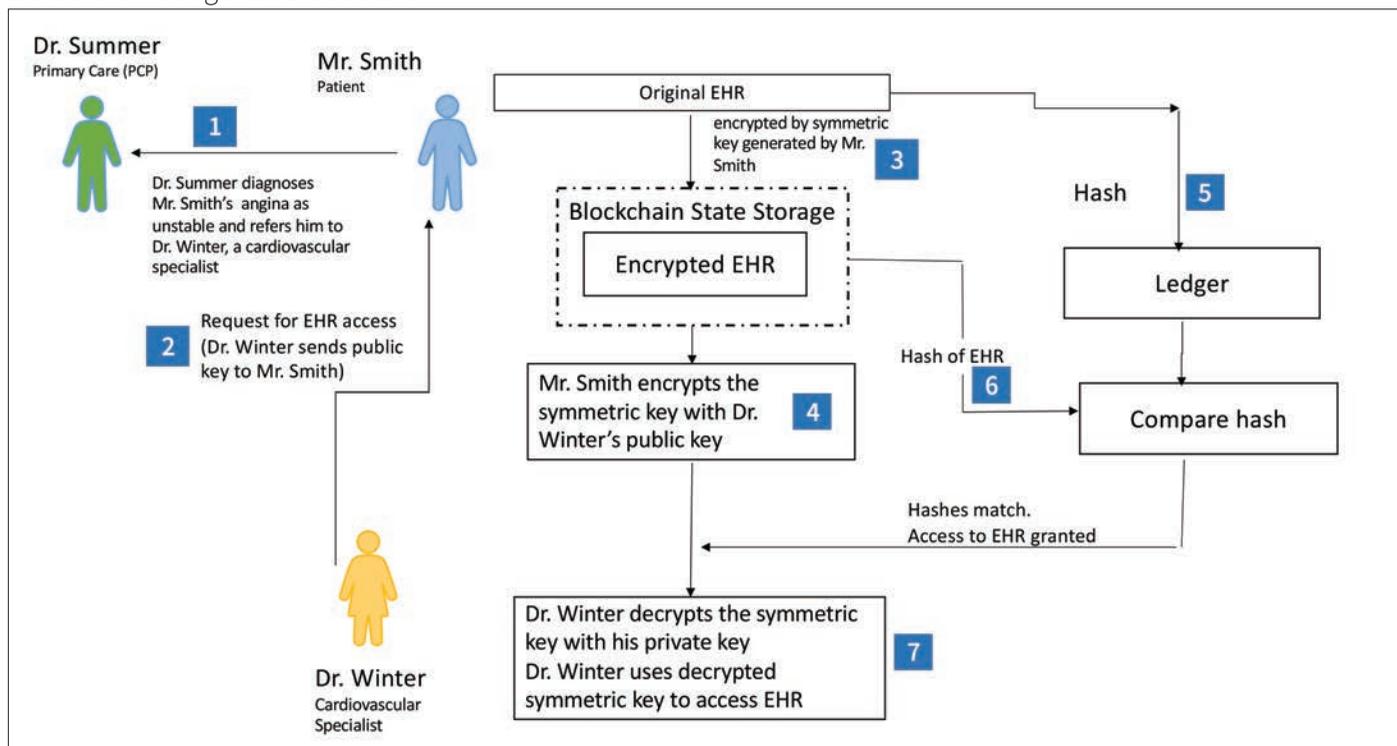
as the owner of the data instead of providers in different networks or in different specialties, the information follows the patient. Table 1 lists some of the potential uses for health care.

IMPLICATIONS FOR HEALTH ACTUARIES

Widespread adoption of blockchain technology could change the way health actuaries approach actuarial work. We could see changes in the following areas:

- Incurred but not reported (IBNR) estimation.** Existing provider contracts could potentially be replaced by smart contracts executed on the blockchain. Such a system could significantly shorten claims processing times and could necessitate sweeping changes to traditional claim lag estimation methods.

Figure 2
Data Flow Through the Blockchain



Notes:

Hashing. The process of taking an input (data in text or any form) and running it through a mathematical function called a hashing algorithm such as SHA256 (secure hash algorithm)⁵ to produce an irreversible output of fixed length called the hash value. The hash value is typically a string of alphanumeric characters and is unique to every input.

Cryptography. Ensures data integrity is not compromised. There are two types of keys used for decryption and encryption:

- Symmetric key.** Where the same key is used to encrypt and decrypt
- Asymmetric key.** Where separate keys (public and private) are used to encrypt and decrypt

Table 1
Current Problems and Blockchain Solutions

Problem	Current Practices	Blockchain Solution
Fragmented care	Rendering provider is owner of data, located in centralized server	Patient is owner of data and retains the ability to grant access to others as needed
	Longitudinal patient data is hard to obtain	Entire treatment history resides on the blockchain, which can be queried
	Treatment decisions based on incomplete clinical information	Clinicians can make well-informed decisions
	Some services/tests are duplicative	Can avoid duplicative tests/services
	Some referrals may be inappropriate because of lack of complete information	Leads to better referrals
Access to care	Physician pool often restricted to carrier network and limited by geography	Vastly extends available physician pool to global markets
	Wait times for specialists (for example, dermatologists) average about a month	Significantly cuts down wait times by engaging any available physician in the global network
	Emergency-room-only option for patient during after hours	Physicians and specialists available around the clock as physicians around the globe are engaged
	Second opinions are harder to come by	Second opinions are easy to obtain, as the same process used for first opinions can be utilized
Administration	Preauthorization process is intensive for both payers and providers	Smart contracts on the blockchain make preauthorization processes quick and accurate
	Providers' network information not readily available to patient or is outdated	Provider directories maintained on the blockchain are in sync across all stakeholders at all times
	Health care fraud from providers and/or consumers is widespread	Blockchain-enabled verifications and immutability factors allow for prevention/immediate remedies
Data privacy	Providers control patient data and decide what elements to share with stakeholders	Patient controls data and can specify elements to share with other stakeholders
Data analytics	Limited in scope because of the lack of availability of longitudinal data	More power to stakeholders, as widespread availability of longitudinal data can generate valuable insights
Internet of things (IOT)	Data from IoT wearables are not connected to health records and claims data	Data from IoT wearables can be connected to health records and claims data for better analytics
Counterfeit drugs	Difficult to track or identify counterfeit drugs	Blockchain can build anti-tampering capabilities into the system

- **Trend forecasting.** Armed with longitudinal health data that is not restricted to administrative claims or EHRs, actuaries may be able to estimate claim trends much more precisely. Traditional pricing methodologies may be replaced by sophisticated data-driven processes with increased accuracy levels.
- **Value-based contracting.** The creative side of actuaries may come to the fore with the level of information that is likely to be available in real time. This could spur the design of innovative, smart value-based contracting arrangements with providers.
- **Administrative expenses.** Blockchain technology has the potential to greatly reduce administrative cost, particularly loss-adjustment expenses when adjudication is executed through built-in smart contracts.
- **Revenue analytics.** With real-time data availability, actuaries may be able to better identify opportunities in hierarchical condition category coding as well as develop targeted Medicare stars improvement efforts.
- **Manual rating.** Rating approaches for new plans where historical claim data is not available may become more sophisticated, as health plan actuaries will be able to query the blockchain to retrieve new members' diagnoses from other data sources.

- **Value-based insurance design.** Actuaries may be able to utilize longitudinal administrative claims data and social determinants of health data to customize benefit designs to targeted subpopulations.

CONCLUSION

Blockchain technology has the potential to significantly improve the quality of life and overall health of the members of a health system, while also adding to administrative efficiencies. For the first time, we will have access to members' entire diagnoses and prescription histories, consumer behavioral attributes and other socioeconomic determinants that are valuable inputs to designing appropriate benefits and proper care management plans. Through the blockchain, we will be able to access data not just of the existing members of the health system but also of potential enrollees and new entrants. The data can be accessed by querying the blockchain through permission granted by the member. This information can be very useful in performing feasibility studies for evaluating entry into newer markets and/or newer products, developing customized care plans and designing efficient value-based contracts. By executing smart contracts on the blockchain, we will be able to achieve administrative efficiencies like never before.

The applications of blockchain technology are numerous and groundbreaking. Organizations that do not pay heed to the benefits that blockchain can bring may find themselves left behind as the rest of the industry marches forward in its quest for efficiency and member satisfaction. ■



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ENDNOTES

- 1 The Office of the National Coordinator for Health Information Technology. 2018. Health IT Dashboard. <https://dashboard.healthit.gov/index.php>. (Accessed Aug. 9, 2018.)
- 2 Ibid.
- 3 IBM Institute for Business Value. 2016. Healthcare Rallies for Blockchains: Keeping Patients at the Center. Executive Report: Healthcare and Blockchain. <https://www.ibm.com/downloads/cas/BBRQK3WY>.
- 4 Research and Markets. 2018. Global Blockchain in Healthcare Market: Focus on Industry Analysis and Opportunity Matrix—Analysis and Forecast, 2018–2025. April. <https://www.researchandmarkets.com/reports/4519297/global-blockchain-in-HEALTH-CARE-market-focus-on>.
- 5 Password Generator. SHA256 Hash Generator. <https://passwordsgenerator.net/sha256-hash-generator/>. (Accessed Aug. 9, 2018.)
- 6 Github. Welcome to Hyperledger Composer. <https://hyperledger.github.io/composer/latest/introduction/introduction>. (Accessed Aug. 9, 2018.)



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