



Health Insurer Balance Sheets 10 Years After ACA

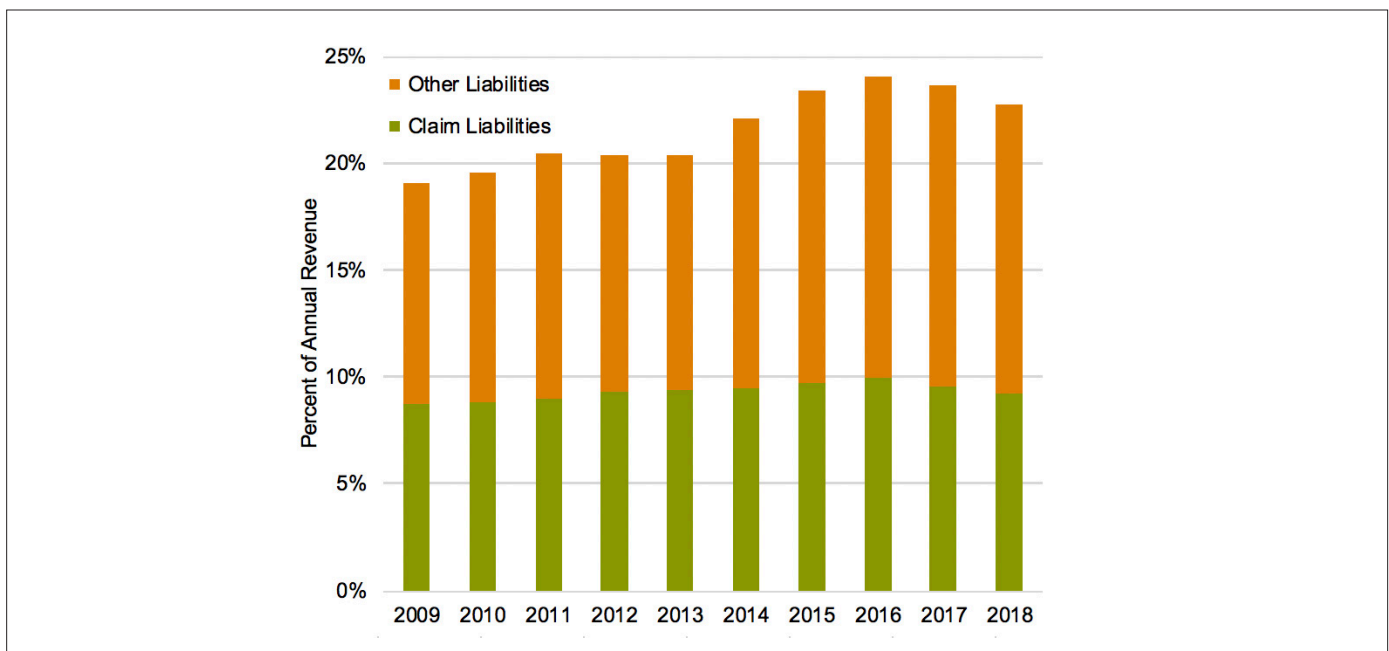
By Scott Jones and Sam Shellabarger

Health insurance company assets and liabilities have evolved since the Patient Protection and Affordable Care Act (ACA) was signed into law in March 2010. The ACA fundamentally rearranged how commercial health insurance is funded by integrating federal premium subsidies and pass-throughs together with a marketplace interwoven with transfer payments among stakeholders.¹ The impacts of these programs can be seen in specific accounting items on the balance sheets of health insurance companies over the past 10 years. Their emergence follows three primary trends: (1) balance sheet items

tend to be larger and take longer to settle, (2) there are more interactions among items and (3) the final settlement amounts are more uncertain.

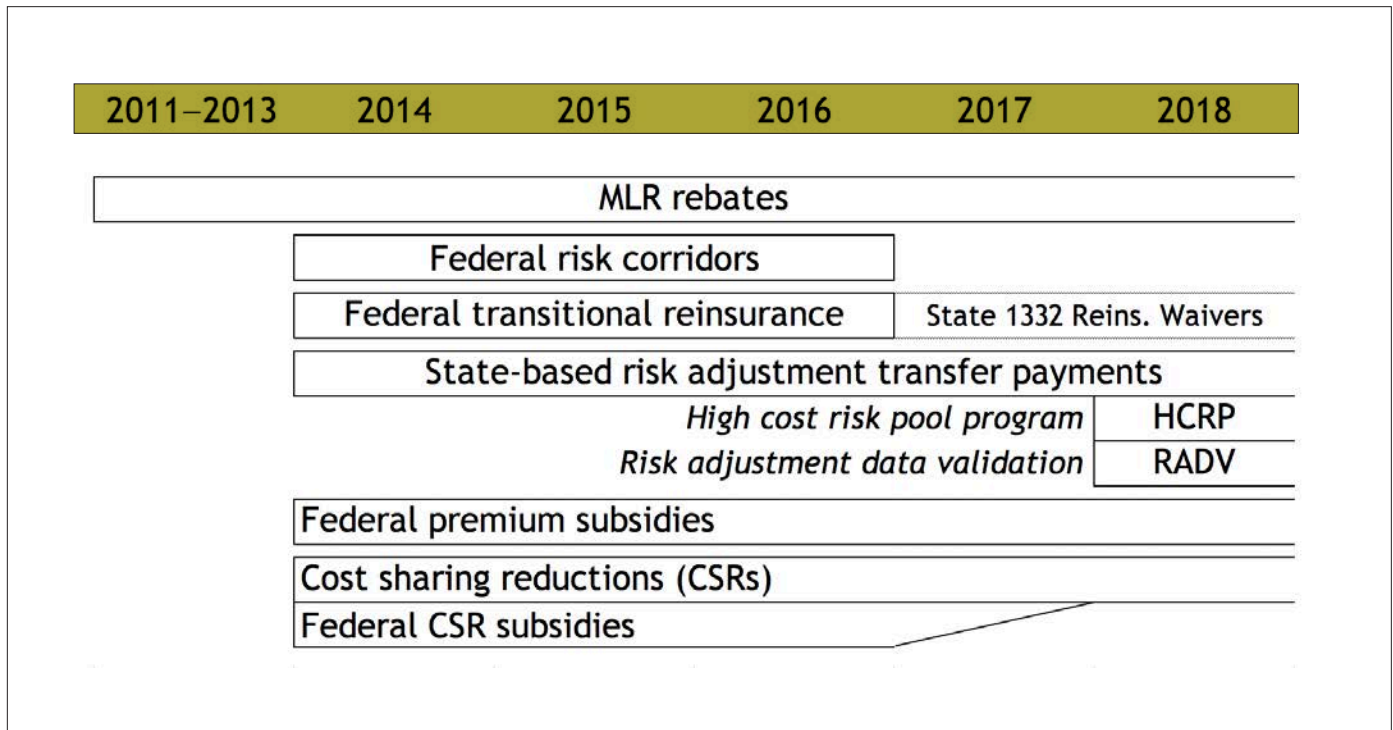
Insurance companies usually have multiple lines of business, including commercial health insurance, Medicare Advantage, Medicaid managed care, dental, vision, long-term care and administrative services only (ASO) contracts. Moreover, within commercial health insurance, not all lines of business are the individual and small group marketplace products traditionally associated with the major ACA reforms. Large group and other employer-sponsored health plans, including those for federal employee health benefits, comprise a major portion of risk revenue. Individual health insurance represents about 20 percent of commercial health insurance premiums. Consequently, the ACA's impact on a company's balance sheets depends on its mix of business. Looking at a representative basket of insurers primarily focused on commercial health insurance, the fingerprints of the ACA can be seen in a direct expansion of year-end liabilities, beginning with the major marketplace and risk mitigation reforms of 2014 (see Figure 1).

Figure 1
Liabilities as a Percentage of Annual Revenue: Selected Commercial Health Insurance Issuers



Based on analysis of data provided by S&P Global Market Intelligence

Figure 2
Key Assets and Liabilities Introduced by the ACA to Commercial Insurers



In Figure 1, as well as Figures 3–6, the sample of insurers is composed of state-level statutory entities filing 2018 health annual statements (i.e., “Orange Blanks”) and for whom at least 75 percent of revenue comes from comprehensive major medical insurance policies other than federal employee health benefit plans. As a result, the sample insurers do not have substantial Medicare, Medicaid and other lines of business, and the annual statements, therefore, primarily reflect commercial health insurance. Although the numerical relationships in the figures differ in other samples, the directional relationships hold up over time under a variety of sampling approaches, including selecting insurers based on their 2009 business mix or using an 80 percent threshold instead. The amounts shown here and in the other figures reflect statutory accounting at year-end. For example, the health insurance providers fee (i.e., “the ACA tax”) represents about 1 percent to 2 percent of revenue but is accounted for as an assignment of year-end surplus rather than a year-end liability, due to accounting rules.

The largest single liability of a typical health insurance company is the unpaid claims liability, representing claims for health care expenses that have already occurred but either have not yet been received by or have not yet been processed and paid by the insurer. Most important, it represents mostly short-term liabilities that settle within two to three months, is diversified across independent policies and health care providers and is straightforward to estimate. The other liabilities category can

be of a very different nature: longer duration, nondiversified, sometimes exhibiting greater variability and often more difficult to estimate. This is the category that has grown the most under the ACA (see Figure 2 for a timeline).

RISK ADJUSTMENT GROWS THE BALANCE SHEET

Complementing the implementation of community rating and guaranteed issue for individual and small group markets starting in 2014, the risk adjustment program calculates market-neutral transfer payments among insurers within the same state and market. By comparing estimated morbidity differences among insurers to allowable differences in premium rates,² the annual transfer payments are intended to approximately equalize for morbidity profile differences among insurers that may attract very different enrollee mixes during the benefit year. The transfer payments can be a significant portion of aggregate risk revenue for a particular insurer’s business in a state market; an insurer that attracted the healthier and lower-cost members will have to pay a significant portion of collected premiums into the risk pool, and those amounts are owed to insurers that attracted sicker and higher-cost members. The federal government administers the program, reporting transfer payment amounts at the end of June following the benefit year, with settlements occurring throughout the summer (for payables) and autumn (for receivables).³

Insurers submit encounter data, which is used to calculate the demographic and diagnosis-based transfer payments for each risk pool. The rate of diagnosis capture in particular (e.g., overcoding and undercoding) can vary significantly across insurers. Insurers attempting to forecast their transfer payments must make material assumptions about how their enrollee profiles will compare to the market average. Not only is this difficult to project before the benefit year's open enrollment period culminates, but it is also difficult to estimate for year-end financial reporting, owing to the veil of confidentiality shielding the health care encounters of individuals enrolled with other insurers. The transfer payments are therefore heavily influenced by information not readily available to each insurer, are affected by the coding practices of competitors, are subject to prolonged settlement lag and may not be fully collectible if another insurer becomes insolvent while owing a transfer payment to the pool.

Beginning with the 2018 benefit year, a risk adjustment data validation (RADV) program was implemented in order to identify insurers that are diagnosis coding outliers in either direction and to make corrective adjustments to their transfer payments, offset by adjustments in the opposite direction to all other insurers, in order to regain market neutrality.⁴ Although this program is intended to reduce variations in transfer payments due to insurer coding practices alone, it introduces new complications. First, insurers do not know whether they are outliers until a few months after the benefit period ends,⁵ and the indirect, offsetting impact of outliers on *other* insurers in the market—positive or negative—is not publicly known until the summer after the benefit year.⁶ Second, the settlement of RADV's incremental adjustments to the transfer payments occurs nearly three years (and in certain cases nearly four years) after the benefit year ends, further extending the risk transfer settlement lag.

The absolute value of risk transfer payments among insurers has averaged about 4.5 percent to 5.5 percent of premium. This significantly extends the timing of risk revenue, turning what used to be underwritten and paid-up premiums into payables and receivables with potentially lengthy settlement periods. This has the effect of growing insurer balance sheets. For example, an insurer with a large payable is expected to accumulate surplus

cash by the end of the year from premiums that are higher than immediately necessary, while setting up an offsetting liability for its future risk adjustment payable.

MLR REBATES, RISK CORRIDORS AND PREMIUM DEFICIENCY RESERVES

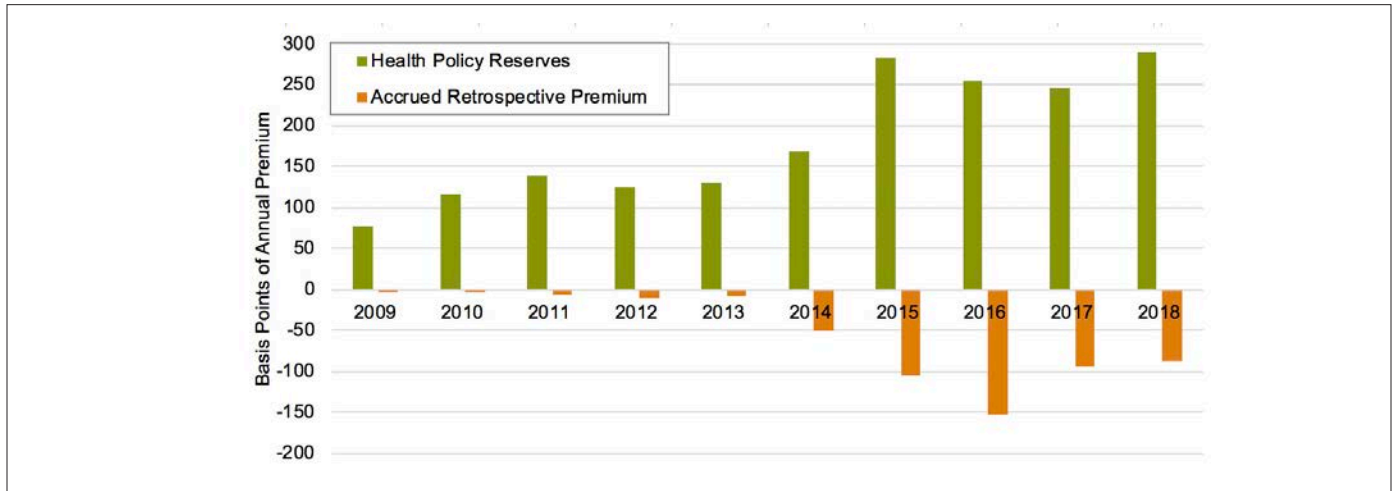
The minimum medical loss ratio (MLR) requirement was the first major program to create new insurer liabilities (see Figure 2 for a timeline). A rebate is owed to policyholders if an insurer's MLR, after adjusting for taxes, fees and a credit for health care quality improvement expenses, is below 80 percent.⁷ All combined, \$1.1 billion in rebates was paid for the 2011 benefit year, though this dropped to around \$0.3 billion to \$0.5 billion per year following significant administrative cost-saving initiatives by insurers. Poor financial results, particularly in the individual market following the major market reforms of 2014, kept loss ratios high and rebates low until pricing caught up to, and in some cases surpassed, experience in the 2017–2018 period. Average rebates paid to individual policyholders increased from 0.2 percent of premium for 2017 to 1.0 percent for 2018.

The risk corridor program lasted from 2014 to 2016 and was initially designed to transfer unexpectedly high gains or losses, after risk adjustment and MLR rebates, between insurers and the federal government. Accrued MLR rebate liabilities and risk corridor payments are accounted for as health policy reserves on the balance sheet. When these amounts are receivables, risk corridors are accounted for on the asset side as accrued retrospective premium. All of these amounts interact with each other, including risk adjustment and unpaid claims liabilities. These interactions are very important to recognize and understand during year-end actuarial valuations.⁸ As an example of the interactions, an insurer may have high-cost claimants with unreported claims incurred prior to year-end. These claims are included in the unpaid claims liability estimate, but also impact the estimated reinsurance recovery. Unreported claims may include previously unreported diagnoses, impacting an insurer's risk scores and risk adjustment transfer payment. Unpaid claims and risk adjustment must be estimated before calculating any risk corridor payables or receivables. All of these estimated items are included in the MLR rebate formula.

Premium deficiency reserves (PDRs)—set-asides for anticipated future losses—are also accounted for as health policy reserves. Times of great market volatility, as has occurred frequently in the individual market since 2014, can expand these and other health policy reserves: When premiums are overestimated, they may lead to MLR rebates, and when premiums are deficient, they may lead to risk corridor receivables and PDRs (see Figure 3).⁹

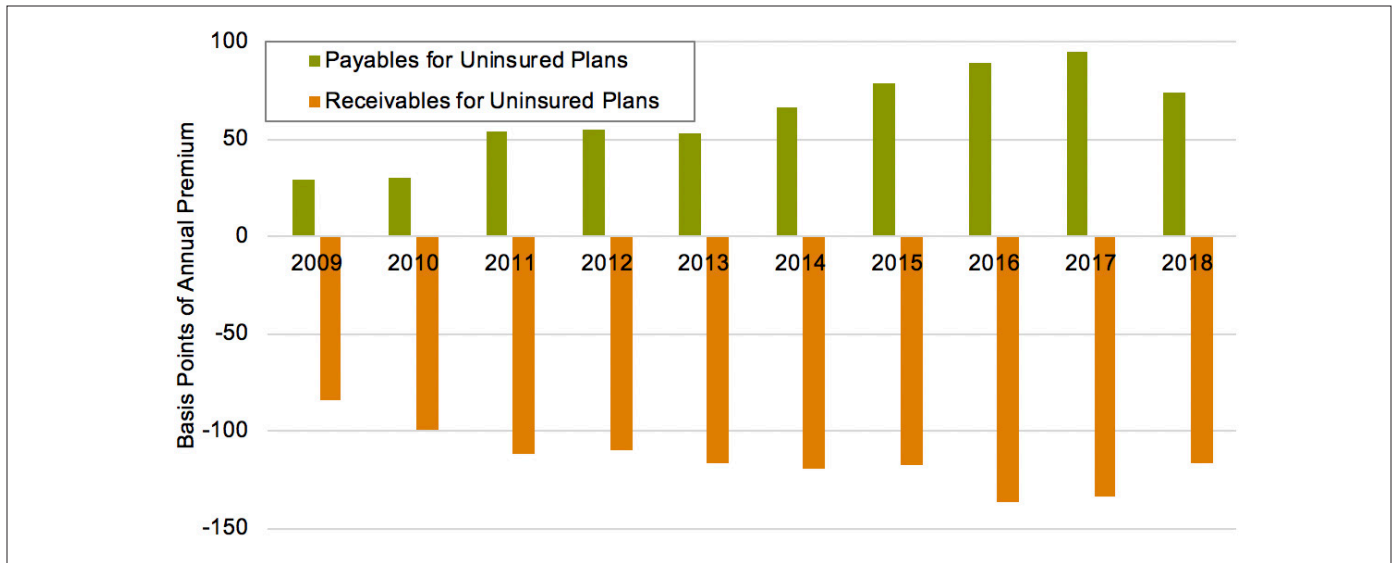
An enduring legacy of the ACA is a more complex and interrelated mix of assets and liabilities.

Figure 3
Health Policy Reserves and Accrued Retrospective Premium: Basis Points of Annual Premium



Based on analysis of data provided by S&P Global Market Intelligence

Figure 4
Payables and Receivables for Uninsured Plans: Basis Points of Annual Premium



Based on analysis of data provided by S&P Global Market Intelligence

PASS-THROUGHS

In addition to underwriting insurance policies, many health insurance companies will also administer claims where the liability is actually the responsibility of another organization. The most common example of this arrangement is an ASO contract, in which a government entity or self-insured employer provides monthly funding and relies on the insurance company to administer claims in a timely manner. Although the final amount of the liability is reconciled and settled over time, the balance of payments can shift between a payable and receivable throughout the year. These amounts are accounted for as payables and receivables for uninsured plans, to distinguish them

from accruals under an insurer’s primary insurance business. Although the insurance company ultimately has no insurance risk, it is exposed to the credit risk that the plan sponsor defaults on its promise to fund the full amount.

These pass-through amounts expanded under the ACA beginning in 2014 (see Figure 4), when the federal government sponsored cost-sharing reductions (CSRs) for low-income participants in the individual market, fully subsidizing insurers for the enhanced benefits through a monthly advance payment and a final settlement the following year. CSRs complemented the federal premium subsidies for low-income individuals.¹⁰

In October 2017 the federal government ceased the monthly advance payments,¹¹ collected from insurers that had an account payable at 2017 year-end, and did not pay insurers that had an account receivable at year-end.¹² Notwithstanding the cessation of federal CSR subsidies, the ACA requirement for insurers to provide CSRs to eligible individuals remained. Insurers subsequently took on the insurance risk for the program and increased premiums over time to account for the funding shortfall.¹³

CASH IS KING

A hallmark of health insurance before the ACA was that insurance companies received monthly premiums up front and then paid claims throughout the benefit year, typically with a short settlement period for unpaid claims liabilities. Private reinsurance contracts helped manage both the underwriting risk and cash flow strain of the largest claims by providing prompt reimbursement in exchange for predictable reinsurance premiums. Under that business model, health insurance contracts, if adequately priced, were cash flow positive, with receivables having a shorter duration than liabilities.

The ACA changed the timing and uncertainty of receivables and complicated cash flows:

- Insurers on the receiving end of risk adjustment transfer payments have an illiquid claim on risk revenue, which may not be fully received until at least 10 months after the year ends. Moreover, the estimation of transfer payments is dependent on enrollment and diagnosis data from competing insurance companies, which cannot be known until late June following the end of the benefit year.¹⁴
- Starting in 2018, amounts under RADV are not reported until the summer following the benefit year and not settled until three years after the benefit year. The majority of insurers affected by RADV are impacted indirectly by the outlier status of a relative few insurers, which is not public information until five months after the benefit year ends.
- Insurers suffering large insurance losses during the 2014–2016 period held risk corridor receivables that were delayed until risk corridor payables could be collected. The risk corridor program was operated in a budget-neutral manner because the federal government did not appropriate funds for the program, which meant that collectability was dependent on good financial performance of unrelated insurers across the nation.¹⁵ Good financial performances were few and far between, and to date, the collection rate has averaged well below 10 percent.
- When the federal transitional reinsurance program was operated from 2014 to 2016, the receipts were not settled until the autumn after the benefit year, which is generally longer than private reinsurers take to reimburse shock claims. Additionally, the attachment point was considerably lower

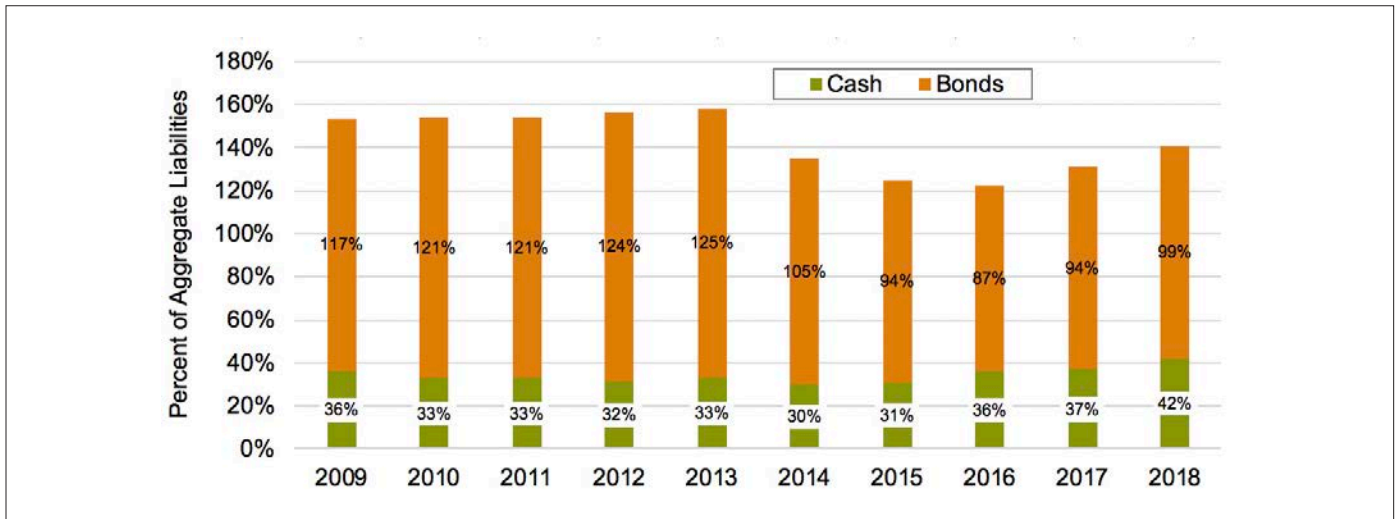
than most private reinsurance contracts. Both factors caused the reinsurance receivables at year-end to balloon during the 2014–2016 period. Since the program ended, an increasing number of states have used the ACA's waiver flexibility to reintroduce state-specific reinsurance programs,¹⁶ so reinsurance receivables could begin to increase again in many markets.

- The CSR program expanded accounts receivable under uninsured plans and also led to collectability problems starting in the autumn of 2017.
- Beginning in 2014, the ACA expanded the grace period for members to pay premiums up to three months for individuals receiving premium subsidies, which increased the size and settlement duration of premium receivables.¹⁷

Successful insurers adapted to the changing characteristics of their receivables. The balance sheets of health insurance companies are closely regulated by risk-based capital (RBC) requirements, and most companies maintain conservative balance sheets in order to mitigate the risk of liquidity challenges. As demonstrated in Figure 5, commercial health insurers maintained, on average, financial assets of sufficient liquidity and size to meet their estimated liabilities. Nevertheless, beginning in 2014, the combination of a difficult rate-setting environment and a shift of revenue from short-term cash flows to longer-term receivables dampened insurers' ability to cover liabilities with their most liquid assets, as can be seen through a lower ratio of highly liquid assets to aggregate liabilities.

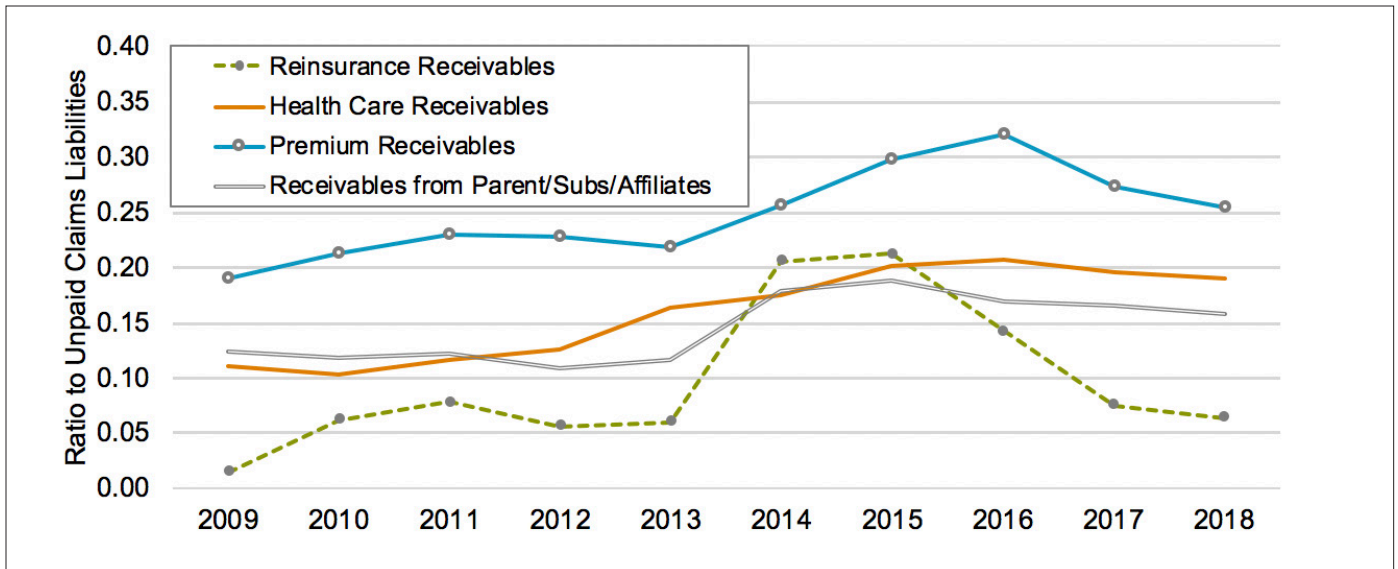


Figure 5
Cash and Bonds, as a Percentage of Aggregate Liabilities



Cash and bonds are divided by aggregate liabilities, after removing liabilities for amounts owed to parent, subsidiaries or affiliates and amounts owed under uninsured plans. Based on analysis of data provided by S&P Global Market Intelligence

Figure 6
Ratio of Selected Receivables to Unpaid Claims Liabilities



For the illustrative group of commercial health insurers, the combined value of the selected receivables grew from 44 percent of unpaid claims liabilities in 2009 to 66 percent in 2018. Based on analysis of data provided by S&P Global Market Intelligence

During this period, insurers had relatively fewer liquid assets available to match to their liabilities, and some had to match an increasing portion of liabilities with longer-duration, less liquid assets. Evidence of the changing characteristics of selected receivables can be seen in Figure 6, with reinsurance receivables spiking during the 2014–2016 period and premium receivables ramping up beginning in 2014.¹⁸ To the extent that these assets have longer settlement durations than unpaid claims liabilities, insurers have to rely more on their shorter-term, liquid assets,

such as cash and short-term Treasury bills, to meet short-term liabilities. Using cash and short-duration assets to cover claims liabilities can decrease the amount of liquid assets available on an insurer’s balance sheet and increase average duration of assets, which can negatively impact insurer cash flows and RBC ratios.

Other industry trends over the past several years (not directly due to the ACA) have also contributed to the growth in receivables and corresponding cash flow challenges for insurers:

- Pharmacy rebates have been steadily increasing as a percentage of total health care expenditures, as have overall prescription drug costs.¹⁹ However, rebates tend to take three to six months to settle and are therefore not immediately available to support cash flows. Payments to health care providers for medical services (e.g., office visits or hospital admissions) do not have a rebate mechanism built into them, yet pharmacy expenses do. Consequently, as pharmacy expenses have grown faster than medical expenses over time, so too have pharmacy rebates, and they are a contributing factor to the gradual increase of health care receivables on insurer balance sheets.²⁰
- Another trend in recent years is increasing market consolidation (both consolidation of insurers and mergers of insurance companies and health care providers, such as hospital systems and medical groups). Related parties may provide administrative or health care services for each other, and related health care providers may take on a portion of insurance risk as well. To the extent that affiliated health care providers assume some downside risk from the insurance company, then receivables under those risk contracts can increase in times of poor financial performance of health care providers.

ON BALANCE

Payables and receivables have grown on balance sheets under the ACA, as have the uncertainty and settlement duration of many assets and liabilities. Successful health insurers in the commercial market have grown more sophisticated in their cash flow management and accounting methodologies as a result of the ACA. Credit risk and other counterparty risk have grown in importance alongside claims volatility risk. These impacts have continued to evolve in the years since the ACA was implemented, with some program dynamics phasing out (e.g., risk corridors, transitional reinsurance) and other new dynamics being introduced (e.g., RADV, high-cost risk pool, 1332 waivers). An enduring legacy of the ACA is a more complex and interrelated mix of assets and liabilities, with longer run-out and settlement periods, greater credit and counterparty risk and greater variation in underwriting outcomes. These evolving dynamics warrant the continued attention of actuaries and accounting professionals alike to ensure they are accurately represented in premiums and financial statements. ■

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The authors are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial analyses herein.

In preparing this article, they relied upon health annual statements, reports and regulations promulgated by the Department of Health

and Human Services (HHS), and articles as referenced. In particular, the health annual statements are issuer-populated, and they may not be complete, accurate or consistent. The authors performed high-level reviews of the results and compared them to alternate sources, where possible. To the extent the underlying data is not accurate, the conclusions in the article may change.

They are not lawyers and, therefore, cannot provide legal advice. Readers are advised to confer with counsel before use of the information herein. Any distribution of this article should be in its entirety. Milliman does not intend to benefit, or create a legal duty to, any third-party recipient of this article.



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ENDNOTES

- 1 Examples include risk adjustment transfer and risk corridor payments among insurers, rebates from insurers to policyholders under minimum medical loss ratios and implicit cross-subsidization between individuals via community rating.
- 2 For example, insurers in most states may rate for differences in enrollee age, using prescribed rating factors that vary by no more than a 3:1 ratio among adults.
- 3 States may elect to operate their own risk adjustment programs in place of the federal program, but no states currently exercise this option.
- 4 Additional background can be found in Karcher, J., J. Petroske, and C. Gleed. A Breakdown of ACA Risk Adjustment Validation. *Milliman*, October 24, 2019, <https://www.milliman.com/en/insight/a-breakdown-of-aca-risk-adjustment-validation> (accessed May 6, 2020).
- 5 The audit is based on diagnosis coding from the prior benefit year (e.g., 2017 diagnosis coding during the 2018 benefit year).
- 6 Centers for Medicare and Medicaid Services. 2017 Benefit Year HHS Risk Adjustment Data Validation Results. *CMS*, May 31, 2019, <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2017-Benefit-Year-HHS-Risk-Adjustment-Data-Validation-Results.pdf> (accessed April 1, 2020).
- 7 The calculation is done at the level of state and market (individual, small group, large group), with a higher minimum threshold of 85 percent for large group.
- 8 The RADV adjustments further complicate interactions across benefit periods. For example, RADV impacts to benefit year 2018 risk adjustment are supposed to be settled in 2021, and those cash flows are required to be treated as if they were incurred in 2021 for the purpose of 2021 MLR calculations.

<p>9 The COVID-19 pandemic of 2020 is unfolding while premium rates are being developed and filed for the 2021 benefit year, adding to uncertainty.</p>	<p>Supreme Court ruled in favor of health plans with outstanding risk corridor receivables. See <i>Maine Community Health Options v. United States</i>, 590 U.S. ___ (2020), https://www.supremecourt.gov/opinions/19pdf/18-1023_m64a.pdf (accessed April 30, 2020).</p>
<p>10 Kaiser Family Foundation. Explaining Health Care Reform: Questions About Health Insurance Subsidies. <i>Kaiser Family Foundation</i>, January 16, 2020, https://www.kff.org/health-reform/issue-brief/explaining-health-care-reform-questions-about-health/ (accessed April 1, 2020).</p>	<p>16 Kaiser Family Foundation. Tracking Section 1332 State Innovation Waivers. <i>Kaiser Family Foundation</i>, January 7, 2020, https://www.kff.org/health-reform/fact-sheet/tracking-section-1332-state-innovation-waivers/ (accessed April 1, 2020).</p>
<p>11 Congress had not appropriated a budget for the CSR program, and the administration's view was that it did not have the authority to continue paying the advance payments.</p>	<p>17 Health Reform: Beyond the Basics. Key Facts: Premium Payments and Grace Periods. <i>Health Reform: Beyond the Basics</i>, June 9, 2016, https://www.healthreformbeyondbasics.org/key-facts-premium-payments-and-grace-periods/ (accessed April 1, 2020).</p>
<p>12 Insurers have initiated litigation to collect more than \$2 billion in unpaid CSR settlements, with mixed success. See Keith, K. Insurers Ask for More Than \$2 Billion in Unpaid CSRs. <i>Health Affairs Blog</i>, March 6, 2019, https://www.healthaffairs.org/doi/10.1377/hblog20190306.139866/full/ (accessed March 30, 2020); and Keith, K. More Insurers Win Lawsuits Seeking Cost-Sharing Reduction Payments. <i>Health Affairs Blog</i>, February 17, 2019, https://www.healthaffairs.org/doi/10.1377/hblog20190217.755658/full/ (accessed March 30, 2020).</p>	<p>18 The reversal of the premiums due trend in 2017 and 2018 is partly caused by tightening premium grace period exceptions, a shift in enrollment mix and better streamlined marketplace functions. The 2018 Market Stabilization Rule is an example of a regulatory reform contributing to this trend. See Centers for Medicare and Medicaid Services. CMS Issues Final Rule to Increase Choices and Encourage Stability in Health Insurance Market for 2018 [press release]. <i>CMS</i>, April 13, 2017, https://www.cms.gov/newsroom/press-releases/cms-issues-final-rule-increase-choices-and-encourage-stability-health-insurance-market-2018 (accessed April 1, 2020).</p>
<p>13 Kaiser Family Foundation. The Effects of Ending the Affordable Care Act's Cost-Sharing Reduction Payments. <i>Kaiser Family Foundation</i>, April 28, 2017, https://www.kff.org/health-reform/issue-brief/the-effects-of-ending-the-affordable-care-acts-cost-sharing-reduction-payments/ (accessed April 1, 2020).</p>	<p>19 Rebates are paid by pharmaceutical manufacturers to insurance companies based on prescription drug purchases made on behalf of policyholders, and the overall premium is set at a lower level in anticipation of receiving these rebates. For a primer on pharmacy rebates and health care financing, see Alston, M., G. Dieguez, and S. Tomicki. A Primer on Prescription Drug Rebates: Insights Into Why Rebates Are a Target for Reducing Prices. <i>Milliman</i>, May 21, 2018, http://www.milliman.com/insight/2018/A-primer-on-prescription-drug-rebates-insights-into-why-rebates-are-a-target-for-reducing-prices/ (accessed March 30, 2020).</p>
<p>14 Centers for Medicare and Medicaid Services. Summary Report on Permanent Risk Adjustment Transfers for the 2018 Benefit Year. <i>CMS</i>, June 28, 2019, https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/Summary-Report-Risk-Adjustment-2018.pdf (accessed April 1, 2020).</p>	<p>20 Another type of health care receivable is advance payments to health care providers, against which future claim payments are deducted. This practice can help providers manage their cash flows, and there is some evidence that it may be used more frequently during the COVID-19-related business disruptions.</p>
<p>15 Centers for Medicare and Medicaid Services. Risk Corridors Payment Proration Rate for 2014. <i>CMS</i>, October 1, 2015, https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/RiskCorridorsPaymentProrationRatefor2014.pdf (accessed April 1, 2020). Receivables for 2014 were reduced by around 87 percent, and receivables for 2015 and 2016 were not reimbursed at all. All told, at least \$12 billion in risk corridor receipts remained unpaid. On April 27, 2020, the</p>	



Changing With the Times: The Past and the Future of ACA Risk Adjustment

By Cameron K. Gleed, Jason A. Karcher and Jason J. Petroske

While the ink was drying on the Patient Protection and Affordable Care Act (ACA) legislation nearly a decade ago, issuers confronted a vast expanse of unfamiliar territory as they transitioned from medical underwriting to a synthesis of guaranteed issue, modified community rating and risk adjustment. Risk adjustment, particularly, promised to address the anticipated marketwide instability by predicating a significant portion of issuer compensation on measured risk levels. Perhaps less expected was the instability introduced by the program itself.

Most uncertainty in risk adjustment outcomes are introduced by two main sources: market shifts and model changes. On one hand, market shifts represent the variety of interactions ACA issuers face every day—from members chasing the most attractive rates to risk pool expansion or contraction. Model changes, on the other hand, originate directly from the U.S. Department of Health and Human Services (HHS), as it monitors the landscape and institutes enhancements intended to strengthen program performance. Even carefully crafted, judiciously applied model revisions can lead to unexpected results and add unpredictability to an environment with limited demonstrated stability to this point. And, with actual risk transfers not known for years after setting rates,¹ issuers need to make the most of the limited information that *is* available to them.

Estimating ACA risk adjustment has been a considerable pain point for issuers in the past. In this article, we track its evolution over time, including an assessment of volatility, drivers of performance and trends. Our goal is to present detailed analyses of important, and perhaps neglected, aspects of the program that

can provide issuers with perspectives and techniques to enhance their understanding of the year-over-year changes and lessen the uncertainty going forward.

A DIVERSE HISTORY

Risk adjustment’s objectives haven’t changed since the program began, but the model underlying the risk score calculation certainly has (see the sidebar “Notable Risk Adjustment Changes”). In this section, we break down risk adjustment’s key performance trends and examine the program’s historical effects on ACA participants, starting with marketwide metrics and stepping down into the elements shaping issuer experiences.

NOTABLE RISK ADJUSTMENT CHANGES

Annual: Coefficient recalibrations to reflect more recent data

2015: Transition to a model assigning hierarchical condition categories (HCCs) through ICD-10 codes

2017: Addition of duration factors reflecting the length of a member’s enrollment with an issuer

2018:

Addition of prescription drug classes (RxCs) to better account for claims costs for certain conditions

Reduction of the statewide average premium by 14 percent to proxy issuer administrative costs and change transfers to a paid claims basis

Addition of high-cost risk pool (HCRP) for members with annual paid claims over \$1 million

First adjustments from prior year risk adjustment data validation (RADV) audits

2019: Begin phase-in of External Data Gathering Environment (EDGE) data in coefficient calibration

2021: Updated condition categories calibrated from data with ICD-10 codes

Model Impacts

Risk score changes happen every year and are shaped by several factors, such as migrations into and out of ACA-compliant plans, morbidity movements, coding practices and updates to the HHS hierarchical condition category (HHS-HCC) model, to name a few. Population and morbidity shifts can be difficult to predict (and are incredibly market-specific), but model changes are known with reasonable certainty in advance. Starting off our investigation, we focus on the HHS-HCC model and how its underlying components changed over time.

To understand the broad impacts of model change, we tracked risk scores for a fixed sample population² under historical HHS-HCC models, holding everything constant except the model from each year.³ We then split each risk score into its primary components.

Figure 1 shows two prominent patterns:

1. The “condition” component (i.e., HCC plus RxC) is an increasing proportion of the total. This makes risk scores more responsive to documented conditions on the EDGE server, which means issuers have been able to increasingly influence their own risk transfers by focusing on medical coding accuracy, member pharmaceutical adherence and EDGE submission practices. It also implies conditions have

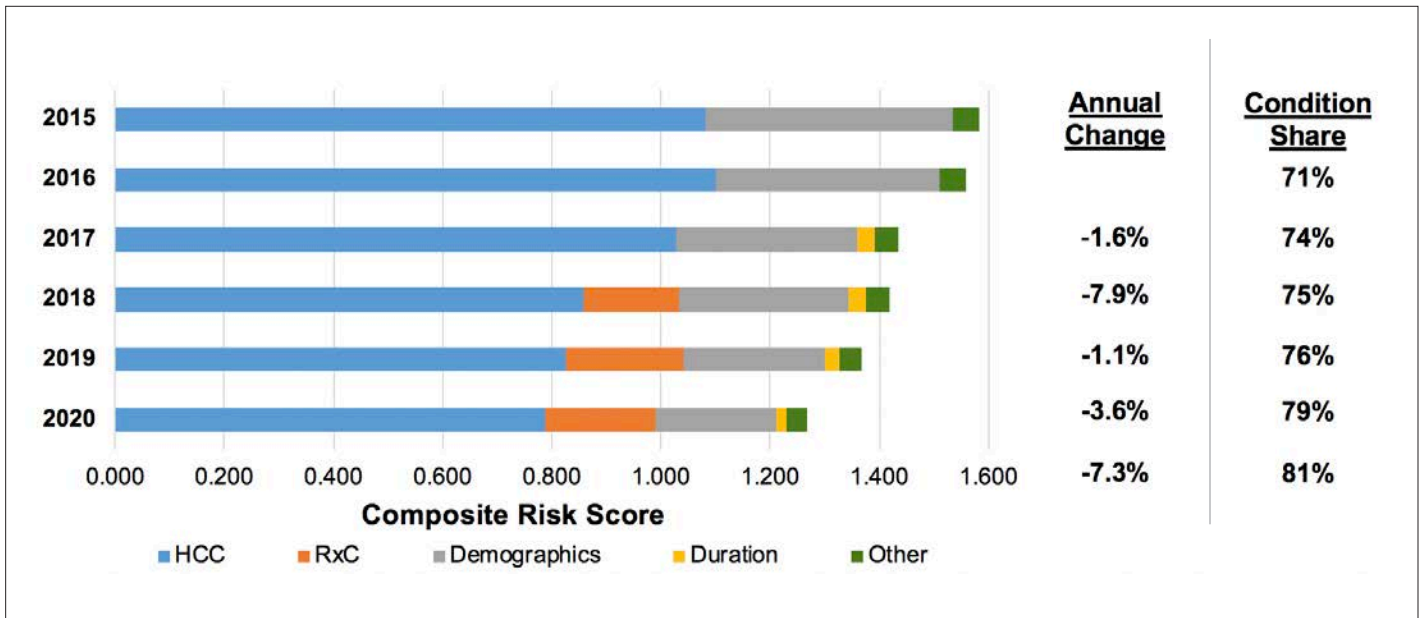
become a larger predictor of claim costs and, therefore, will be the largest differentiator of risk scores among issuers.

2. Composite risk scores have shrunk, suggesting the morbidity of the calibration population is moving closer to the average overall morbidity of ACA markets.⁴ This shift to the average applies to all issuers but affects each one to varying degrees, which can present challenges when predicting average marketwide risk scores and transfers.

Moving from the population-wide metrics in Figure 1, issuer risk scores vary—sometimes extensively—based on the makeup of its enrollment. Figure 2 isolates the range of year-over-year issuer-level risk score changes in our sample data due solely to model updates. We graph these ranges around the composite averages reported in Figure 1.

To help explain the patterns in Figure 2, we illustrate annual risk score model coefficient changes for the major model components in Figure 3. The orange dots indicate the average risk score changes shown in Figures 1 and 2, while the green dots indicate demographic-specific changes. We group HCCs and RxCs into 21 common condition categories and plot their values in blue. The size of each blue and green dot denotes its contribution to the overall average risk score in that specific year.

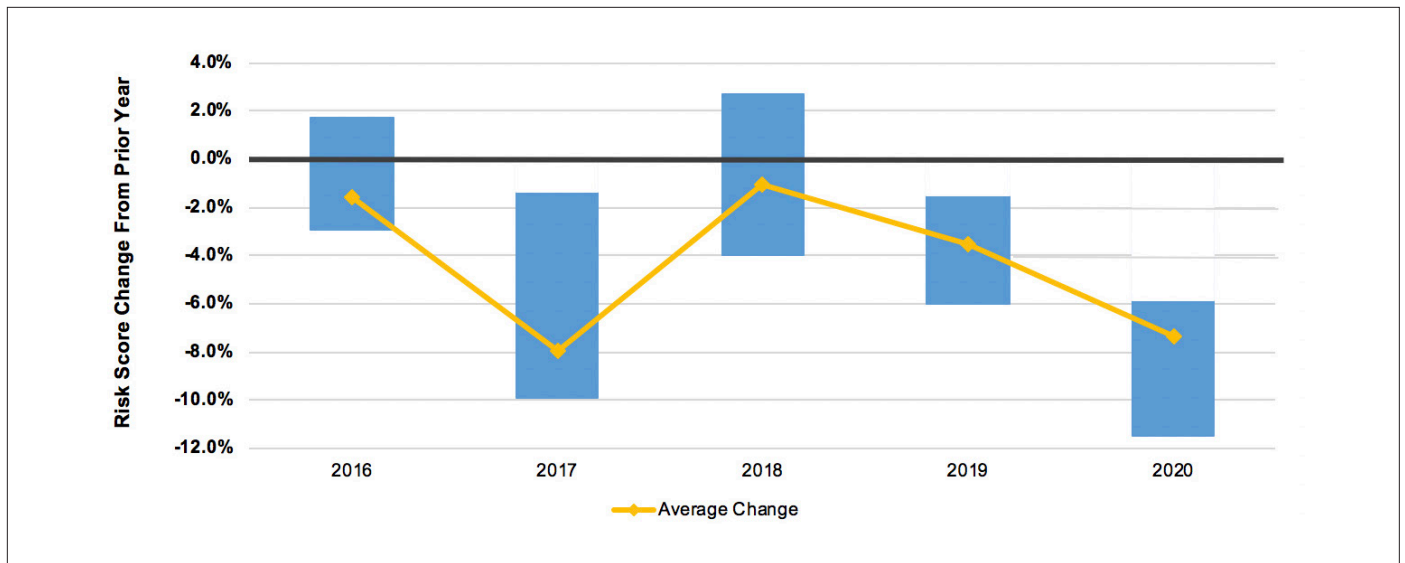
Figure 1
Components of the Risk Score



We bucket the interaction between hierarchical condition categories (HCCs) and prescription drug classes (RxCs) with the RxC component. Nevertheless, the HCC-RxC interaction is still related to a member’s “condition.” The “Other” category contains the multiplicative effect of the induced demand factor applicable to each specific cost-sharing reduction plan variation, which is spread across all risk score components. This does *not* reflect high-cost risk pool transfers or risk adjustment data validation adjustments.

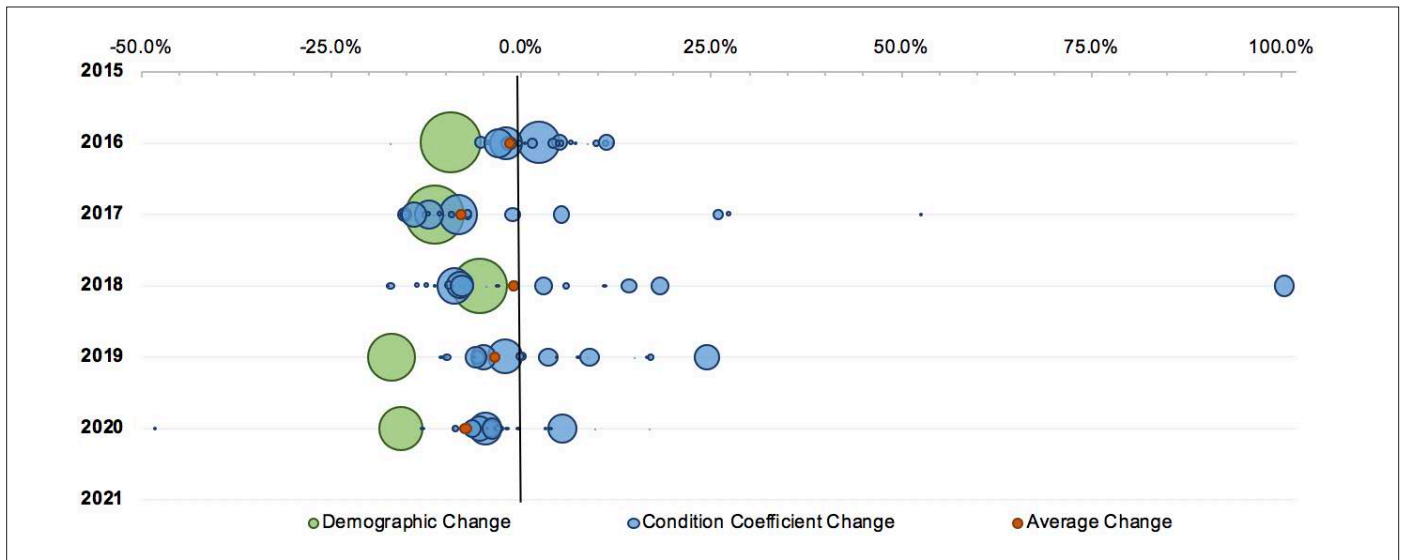
Data from proprietary calendar year 2018 ACA enrollment and claims.

Figure 2
 Variability of Issuer Risk Score Changes From HHS-HCC Model Updates



Data from proprietary calendar year 2018 ACA enrollment and claims.

Figure 3
 Annual Coefficient Changes vs. Risk Score Contribution



In this figure alone, we limit the coefficient changes to the silver risk score model for children and adults. This eliminates variability caused by differences in the HHS-HCC models among metallic tiers while still capturing the majority of the ACA market. The hierarchical condition category outliers of note include HIV/AIDS in 2017 (53 percent change), autoimmune conditions—particularly due to the introduction of RxCO9—in 2018 and 2019 (100 percent and 25 percent change, respectively) and liver conditions in 2020 (-48 percent change).

Data from proprietary calendar year 2018 ACA enrollment and claims.

Figure 3 illustrates considerable variability in annual risk scores across various model elements. This, in turn, helps explain why the issuer-specific risk score changes shown in Figure 2 can fall into such a broad range—and from model changes *only*. As a best practice, ACA issuers should evaluate how risk scores may change across the conditions common in their insured populations

as they develop financial projections and set rates, which will lessen the chances of unpleasant surprises when actual results emerge. With the adoption of RxCs into the model, the pressure to optimize drug formularies and coverage levels will increase as issuers monitor the pharmacy pipeline for how new drugs will affect risk adjustment in addition to plan costs. Analyses such as

those presented earlier will be important for issuers to stay on top of, particularly as the Centers for Medicare and Medicaid Services (CMS) introduces further structural changes to the HHS-HCC model, such as those beginning with the 2021 benefit year.

Market Impacts

Now that we’ve explored some of the major HHS-HCC model changes and their effects, we turn our attention to how risk adjustment influenced the market over time. These impacts follow from pure model changes as well as member movements between benefit plans, across issuers and into or out of the ACA market itself.

From the start, risk adjustment represented a large portion of market premium—perhaps more than initially expected. And, similar to the model change trends, the results have a degree of variability around the averages. Figure 4 shows the range of the absolute value of risk transfers relative to total market premium at the state level.

The graphs in Figure 4 offer several insights:

- Risk adjustment remains a considerable portion of ACA premium, and the mean impact of risk adjustment has remained relatively stable,⁵ particularly in the individual market.
- Other than compression over time in the small group market, variability among states has remained high in both markets. This suggests issuers continue to attract enrollees with

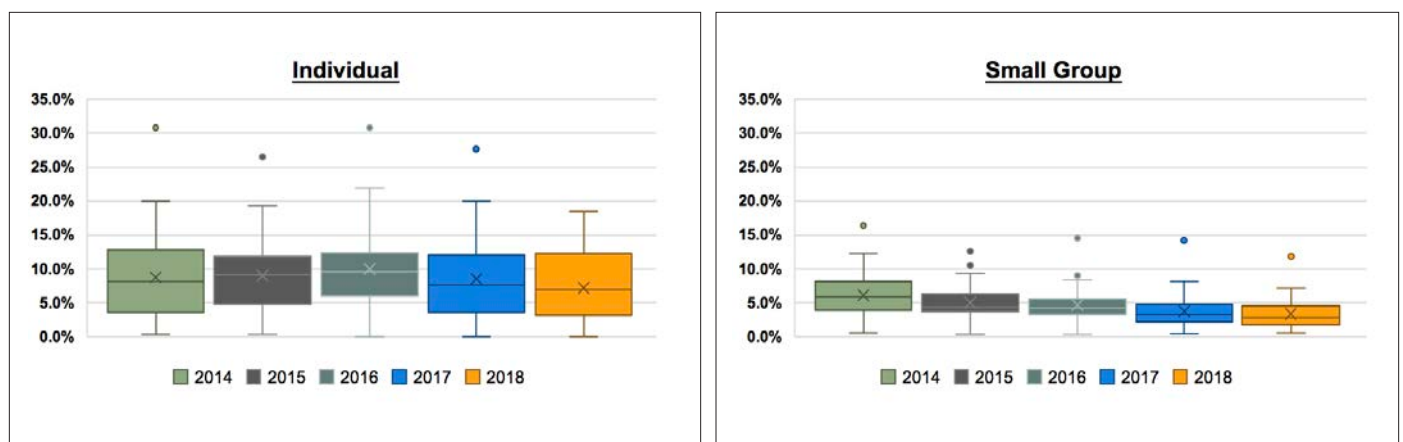


divergent morbidity profiles, which, coincidentally, is the primary justification for the risk adjustment program under guaranteed issue.

- Because HHS calibrates the risk adjustment model with a national data set, issuer risk scores can vary significantly from the nationwide average. Depending on the makeup of the market, any state can experience a high degree of variation in transfers among its ACA participants. Understanding a state’s risk profile is a key factor in more accurately capturing the program’s effect on a specific issuer.

As with model changes, the underlying patterns in Figure 4 are obscured by its big-picture focus. Risk adjustment shows some stability at the market level, but it is very much an issuer-specific experience. Therefore, as we progress to the issuer level in

Figure 4
Range of State Risk Transfers as a Percentage of Total Market Premium

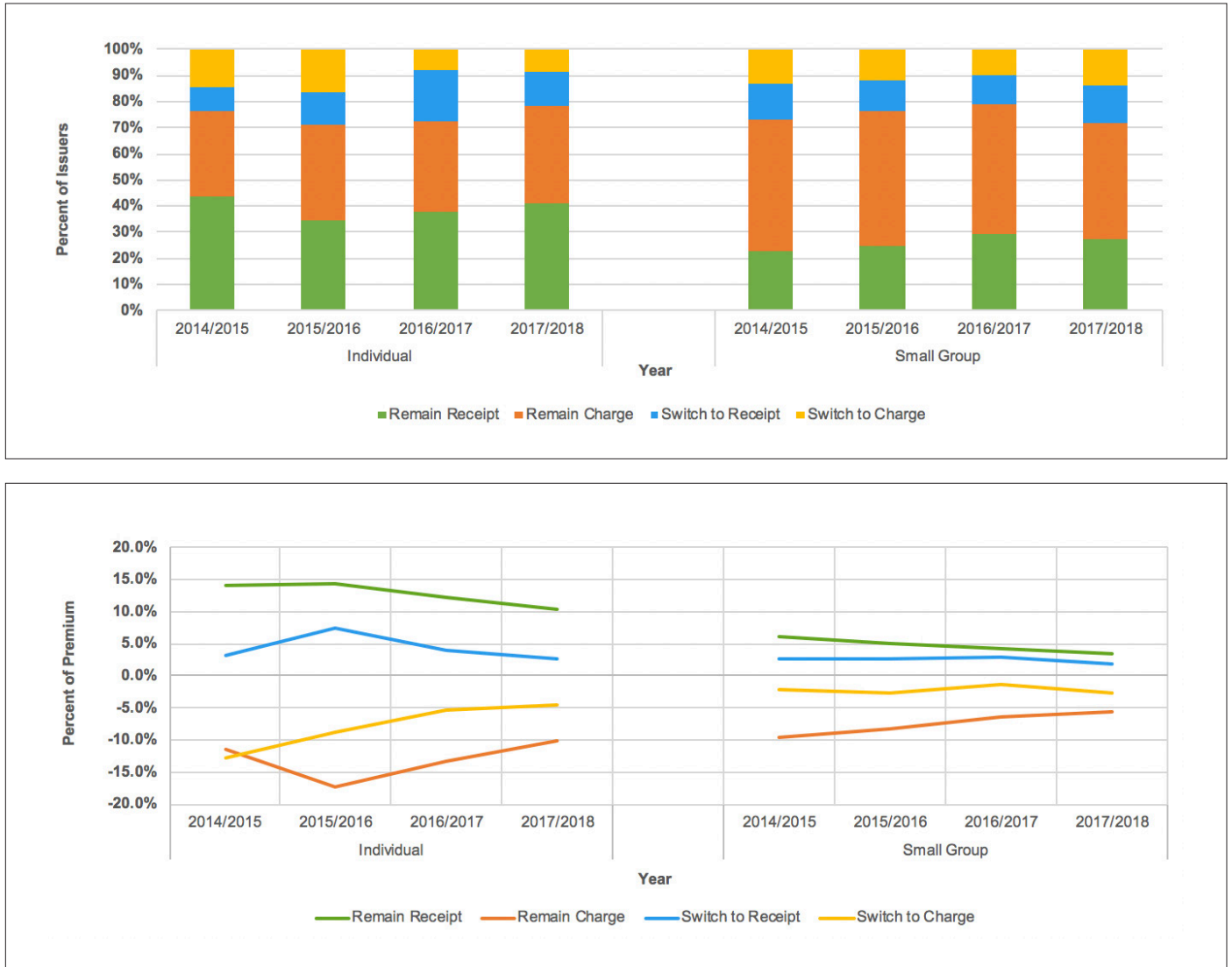


Each underlying data point represents an entire state. For a quick refresher on box-plots:

- The X represents the mean.
- The range of the box edges represents the 25th and 75th percentiles.
- The bars extending from the boxes represent the maximum and minimum observation, showing the overall variability (excluding outliers).
- The dots above the boxes represent outliers within the results, using a threshold of 1.5 times the interquartile range outside of the 25th or 75th percentiles.

Data from CMS summary risk adjustment reporting

Figure 5
Issuer Level Risk Adjustment Directionality



Each underlying data point represents an issuer, grouped into one of four categories.

Data from CMS summary risk adjustment reporting; CMS unified rate review public use files; CMS medical loss ratio public use files

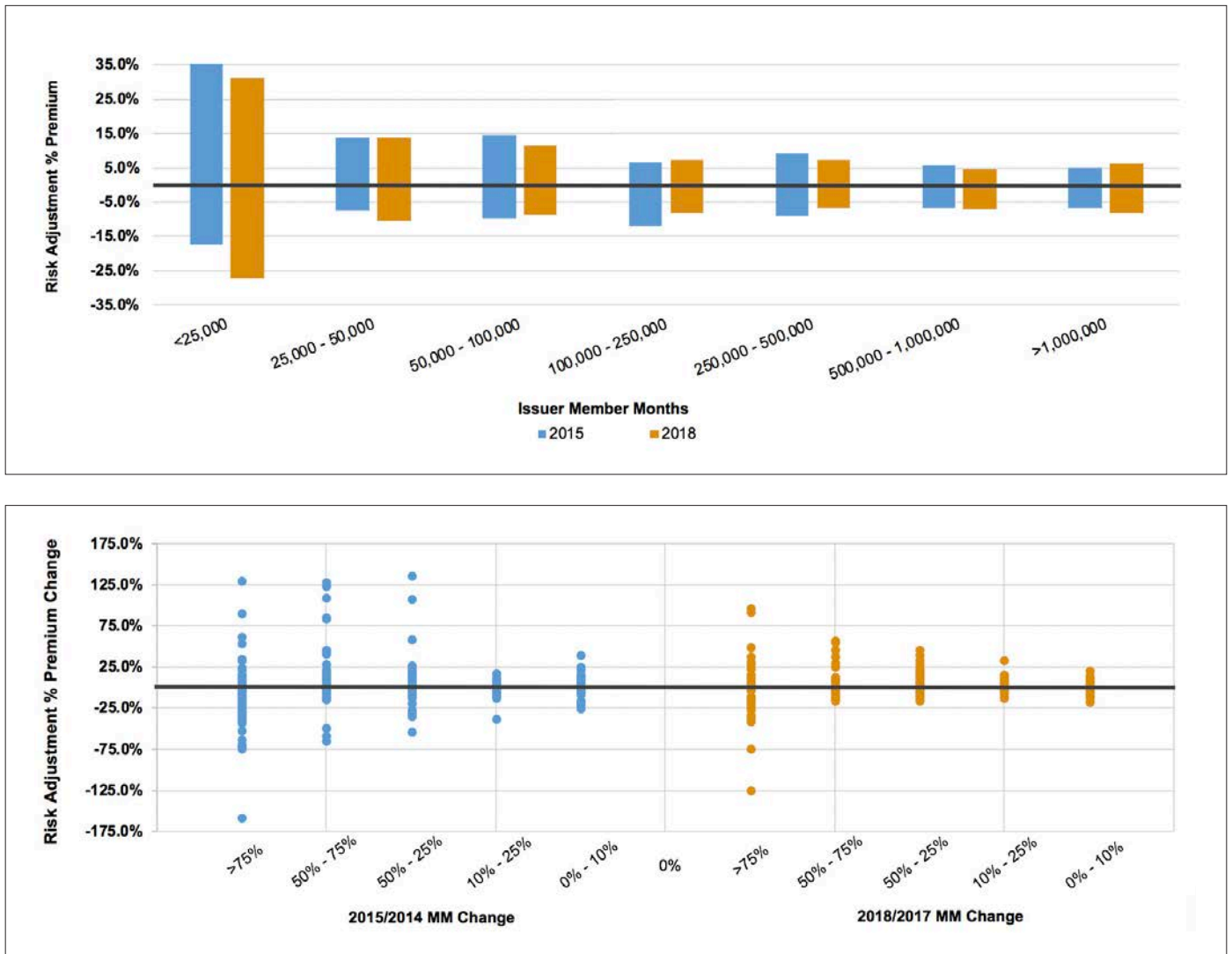
Figure 5, we first consider how risk adjustment positions change year over year at the issuer level.

The top of Figure 5 illustrates the level of stability in transfer direction, while the bottom of Figure 5 shows risk transfers as a percentage of premium for the same cohorts. While Figure 4 suggests a less impactful risk adjustment program over time, many issuers do experience large swings in results every year and may be unable to account for these shifts when setting premium rates. In fact, as many as 30 percent of renewing issuers reverse position (from receivable to charge or vice versa) from the prior year, and those changes represent fairly significant average transfers as a percentage of premium (from about a 5 percent

receipt to a 5 percent charge, for instance, in the individual market). Moreover, transfers represent a large percentage of premium for individual market issuers maintaining the same transfer direction (10 percent of premium for 70 percent of issuers in recent years), which means even those with stability in transfer direction year over year still experience considerable transfer levels (near the 75th percentile of state-level transfers exhibited in Figure 4).

The patterns underlying the averages in Figures 4 and 5 have even more variability at the specific issuer level. One commonly cited connection is between risk adjustment and enrollment.⁶ Issuers come in a variety of sizes and, depending on market dynamics, can experience significant enrollment changes as

Figure 6
Relationship Between Risk Adjustment and Enrollment



Each underlying data point represents an issuer, grouped into one of four categories.

Data from CMS summary risk adjustment reporting; CMS unified rate review public use files; CMS medical loss ratio public use files

prices shift. We conclude our analysis by highlighting the importance of enrollment mix. Figure 6 shows the relationship between risk adjustment and enrollment in two ways:

1. how the magnitude of risk adjustment varies by issuer size; and
2. how the magnitude of risk adjustment changes as issuer enrollment changes.

The data shown in the top of Figure 6 suggests risk transfers can represent a much larger portion of premium for smaller issuers. Additionally, those experiencing greater annual enrollment variability (bottom of Figure 6) also typically see risk transfers

fluctuate by larger amounts.⁷ It appears the risk adjustment transfer payment approach is sensitive to issuer size and market shifts—and this reality is just as true now as in the beginning of the program (as demonstrated by the similarity in patterns between the blue bars/dots and the orange bars/dots). Issuers, especially the smaller ones and those experiencing significant changes in enrollment, need to be particularly aware of the potential range of values when evaluating transfers, setting assumptions and developing market strategies.

AN UNKNOWN FUTURE

Risk adjustment has been and remains a source of apprehension for ACA issuers, given its many unknowns. Predicting annual marketwide enrollment shifts will always present challenges

in estimating transfers. However, HHS may explore avenues to address the other sources of uncertainty that are within its control: model changes and model accuracy. Although no statistically based risk adjuster will perfectly predict payer costs, there is, undoubtedly, room for improved HHS-HCC model performance. What does the future of risk adjustment look like? HHS has floated several ideas in various forums and publications, while other suggestions have been wrapped into broader health care discussions over the years.

The following list represents potential areas of risk adjustment model improvement expressed by HHS or others working within the health care space:

- further developing coefficients, reflecting larger portions of EDGE data and recent market changes;
- changing HCC/RxC values and categorizations to leverage the precision of ICD-10 codes;
- refreshing the CSR-induced utilization factors;
- introducing a nonlinear model to the calibration process;
- reflecting additional factors in the transfer calculation, including issuer network characteristics or issuer premium levels, among others;
- incorporating other factors with predictive power, such as social determinants of health and other socioeconomic data (such as credit scores);
- updating governance procedures to allow either the incorporation of more up-to-date information or more time for issuers to understand a model change;⁸ and
- enhancing risk adjustment data validation to better align ultimate risk transfers with program goals and/or to minimize disruptive effects.⁹

Regarding the first two suggestions, risk adjustment in 2021, as finalized in the 2021 HHS payment notice released May 7, 2020, will likely utilize solely EDGE data from 2016 through 2018 ACA-compliant plans. Further, CMS will materially restructure the HCCs due to the availability of ICD-10 diagnoses in all three calibration years.

In addition, the March 24, 2016, CMS white paper on risk adjustment considered many risk adjustment improvements, several of which have been built into the risk adjustment program. Among other topics, CMS addressed incorporating network differences, nonlinearities in modeled plan liabilities and updating risk adjustment factors, including CSR-induced utilization. CMS has continued to discuss these ideas in recent payment notices.

Incorporating other factors with predictive power has recently generated much interest as well. Credit score, for example, has been very successful as an underwriting factor for many non-

health insurance products. Additionally, China has explored use of a “social credit score,” used to track individuals’ trustworthiness, though privacy concerns in the United States could present roadblocks to adoption of any similar measure.

Members of the Center for Consumer Information and Insurance Oversight have addressed the potential benefits and challenges with introducing social determinants of health into the ACA risk adjustment program in presentations at industry conferences.

CONCLUSION

At the start of the ACA, most issuers concentrated on quantifying the interplay among looming market forces. As initial outcomes began to unfold, their attention pivoted to correcting pricing gaps between initial projections and experience. Now that many markets have begun to settle, issuers seem motivated by stability, predictability and equitability. Risk adjustment is the key (and arguably the only) nationwide mechanism currently in place to help achieve these goals.

HHS has acknowledged past issuer apprehension and has certainly sought to improve the HHS-HCC model. Each year, the makeup of the risk score has evolved, and well-intentioned changes have been made with an eye toward better capturing costs. But no model is perfect, and the ability for risk adjustment to stabilize markets remains an open question.

Issuers tend to focus on the big picture, tying both strategies and projections to macro-level influences. But the structure of the HHS-HCC model within the risk adjustment program has a real impact on issuer and state risk scores and, by extension, on issuer risk adjustment transfers and revenue. An issuer invested in analyzing the *details* of the model is often rewarded with deeper insights into key business drivers and, as a result, is presented a pathway to a more robust, comprehensive and well-informed strategy. ■

The authors would like to thank Scott Jones and Stacey Muller for their review and insights during the drafting process.

The authors are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial analyses herein.

In preparing this article, they relied upon several federal publications. Refer to the endnotes for additional details.¹⁰ Differences between the theory discussed in this article and actual results depends on the extent to which future experience conforms to the assumptions made for this analysis. It is certain actual experience will not conform exactly to the assumptions used in this analysis for a variety of reasons, including changes to ACA risk adjustment regulations or guidance in future rulemaking or as a result of legislation or litigation. Issuers subject to the risk adjustment program should monitor their results and take corrective action when necessary. Public files are issuer-populated, and

not all information will be complete, accurate or consistent. After a cursory overview of the data, the authors found the information to be reasonable and in line with expectations. To the extent the data is not accurate, their conclusions would likely change.

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ENDNOTES

- 1 In many cases, risk adjustment results will only be available from three years before the effective date and earlier. For example, issuers required to file 2021 rates before July 2020 will have access to complete risk adjustment results through the 2018 benefit year.
- 2 Our population represents proprietary calendar year 2018 ACA enrollment and claims run through each final version of the HHS-HCC model. For calendar year 2019, we used the Centers for Medicare and Medicaid Services (CMS) model released in July. For calendar year 2020, we used the 2019 logic with the finalized

2020 coefficients from the annual payment notice. By fixing the population, we capture movements from model changes only rather than population shifts.

- 3 Although not reflected in the graphs, a typical measure of model “accuracy”—the R-squared—has been steadily increasing each year. The most prominent change came in 2018 when HHS introduced pharmacy factors, and risk score impacts shifted away from HCCs and into RxCs.
- 4 ACA risk scores are intended to predict costs relative to the average in the calibration population. The first years of risk adjustment coefficients were primarily based on large group data, and the average 2015 risk score of about 1.6 can be thought of as indicating the ACA population is 60 percent costlier than the average employer data underlying the risk adjuster. As CMS incorporated more recent data (and, beginning in 2019, ACA-specific EDGE data), the calibration experience data has become more similar to actual ACA experience.
- 5 The general decline in the 2018 average is driven by the reduction in all transfers of 14 percent for HHS’ model change to a claims basis. Had this adjustment not occurred, 2018 transfers would have been *higher than* 2017 in both markets. These numbers do *not* include transfer changes caused by RADV audits in 2018 but *do* include collections from the high cost risk pool. Going forward, state-specific transfer adjustments, such as the 50 percent dampening in Alabama’s small group market, could result in further transfer decreases.
- 6 Consumers for Health Options, Insurance Coverage in Exchanges in States (CHOICES) to U.S. Department of Health and Human Services Secretary Sylvia Burwell. Technical Issues with Risk Adjustment and Risk Corridor Programs. November 4, 2015. <https://web.archive.org/web/20170128053231/http://nashco.org/wp-content/uploads/2015/11/CHOICES-White-Paper-on-Risk-Adjustment-Issues.pdf> (accessed January 31, 2020). Also, Figures 5.2 and 5.3 of CMS’ March 31, 2016, risk adjustment discussion paper regarding the distribution of transfers as a percentage of premium by issuer size show significantly more volatility by issuer size. CMS Center for Consumer Information and Insurance Oversight. HHS-Operated Risk Adjustment Methodology Meeting Discussion Paper. CMS, March 31, 2016, <https://www.cms.gov/CCIIO/Resources/Forms-Reports-and-Other-Resources/Downloads/RA-March-31-White-Paper-032416.pdf> (accessed March 24, 2020).
- 7 Greater annual enrollment variability is more likely to occur for smaller issuers but happens with surprising regularity for all ACA participants. In 2018, over half of total continuing issuers and one-third of large issuers (over 500,000 reported member months) experienced at least a 25 percent change in membership, which is reflected in the portion of Figure 6 with the most volatility.
- 8 In comments in response to the proposed 2021 HHS payment notice and the December 6, 2019, RADV white paper, the American Academy of Actuaries emphasized the role of sufficient data and time in ensuring that changes to risk adjustment and risk adjustment data validation contribute to the goals of the risk adjustment program and its purpose as the ACA’s primary premium stabilization mechanism.
- 9 Ibid.
- 10 Benefit year 2014 through 2019 Risk Adjustment Updated HHS-Developed Risk Adjustment Model Algorithm “Do It Yourself (DIY)” Software; benefit year 2014 through 2018 annual CMS risk adjustment reports; benefit year 2014 through 2021 final HHS payment notices; various published RADV Protocols for PPACA HHS Risk Adjustment Data Validation; benefit year 2016 through 2020 Unified Rate Review Template (URRT) Public Use Files (PUFs); benefit year 2014 through 2016 Medical Loss Ratio PUFs.



Leader Interview

With Greger J. Vigen

Greger J. Vigen, MBA, is the founding chair of the Health Payment Reform subgroup of the Society of Actuaries (SOA) Health Council. He served on the board of directors for Physician Associates IPA and was co-chairperson of the payment workgroup for the Dartmouth Brookings ACO Learning Network. Previously, he worked for major purchasers through Mercer with financial responsibility for 2 million lives (including California Public Employees' Retirement System). His projects have included development of stronger networks and collaborative provider contracts across the country. Several of these products form the foundation for county-level Exchange products.

ON BEING AN ACTUARY

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

Greger Vigen (GV): My father worked for a property-casualty insurer and mentioned an actuarial career as an option. So, I passed some early exams while getting my undergraduate math degree and MBA. After graduation, an actuarial profession offered continually interesting work, a potential impact and a long-term career using math skills within a business context. And the health and pension work that interested me were both fast-growing industries.

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

GV: I interviewed with two other types of companies with interesting work in fast-growing industries: computer design/programming and management consulting. Each had its unique strengths and weaknesses. Management consulting offered

high-level business projects with extensive on-the-job learning, but required massive hours. Computer programming was very rapidly growing, but it was very detailed, technical work without a clear route to develop broader skills.

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

GV: I worked extensively part-time while going to college, such as ongoing seasonal work on tax returns and teaching swimming, plus various odd jobs I could pick up, such as tutoring, usher, library aid, and so forth. No particular favorite. Tax work gave a partial understanding of taxes and finance. Teaching let me watch kids improve before my eyes and use some of my mother's expertise.

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

GV: The core question is always the same: How can my colleagues and I do better? This means continuing improvement and learning, but in a practical context—directed learning that matters, supports my firm and/or clients and is built upon my fundamental technical skills as an actuary and an MBA.

Then I needed to make good business and personal decisions: choose a growing industry, work for one of the better companies, take a broad view of my job, work with strong people with diverse skills, avoid the worst clients, selectively take the harder projects, fix on one specific personal weakness at a time. Along the way, I strengthened related skills, such as communications, computers and business.

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

GV: There were various major events along this continuous-improvement track.

I moved from an insurance company to a major consulting firm after getting my FSA. This was essentially a decision to pursue a long-term career offering advice rather than trying to become an executive in a large organization.

My consulting role was somewhat unusual. My firm had many strong general health consultants and a strong local presence with major employers, but little actuarial expertise. So, I built a strong financial role across all our clients, not just my own personal clients. In effect, I became “a consultant to other consultants”—the expert adviser on any tough financial issues, sometimes within a multidiscipline team.

Eventually, my expertise and business breadth offered me many opportunities to have a large positive impact, including work for many large employers; leader of the national professional development for health actuaries at my firm; lead consulting role for CalPERS, a jumbo client that buys health care for more than a million members; and founding chair of the Society of Actuaries (SOA) Health Payment Reform subgroup.

When my core expertise of networks and provider-based care began to be used across the country, I became an independent consultant. There is some direct client work for major provider organizations and carriers working to create strong collaborations. Working as a consultant, I can download knowledge to other actuarial consultants as subcontractors.

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

GV: The health industry has many challenges, including the current coronavirus crisis. The industry is rapidly changing;

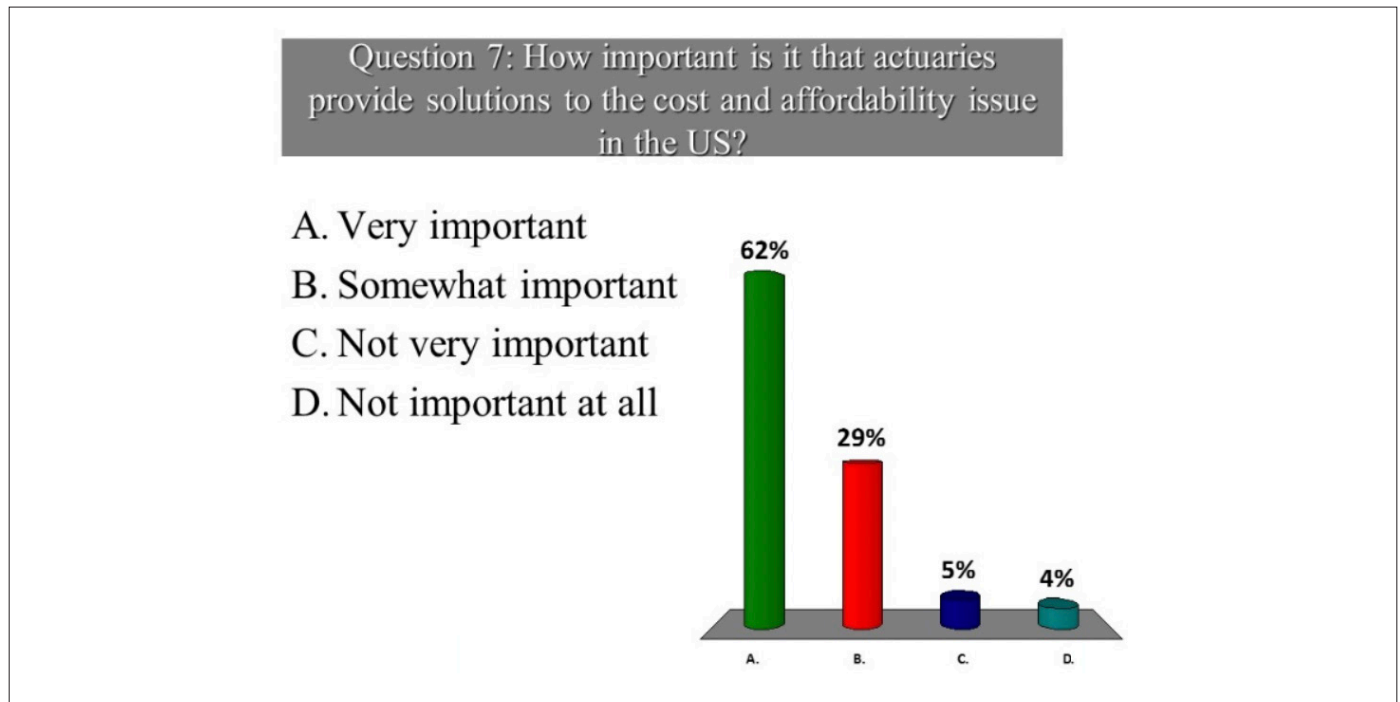
leading actuaries must create solutions, beyond production work. Health actuaries have an opportunity and a responsibility to create a valuable, affordable health system. A decade ago, we asked about 200 health actuaries at an SOA session about our role. Ninety-one percent said it is important “that actuaries provide solutions to the cost and affordability issue in the U.S.” This request and challenge continues to drive my work and my actions.

The polling result from the 2011 survey appears in Figure 1. I use this as an ongoing personal reminder of what needs to be done.

HW: What do you think the actuarial profession should focus on to remain relevant?

GV: We need to continue to do two things: provide strong, practical, immediate support for members and create a powerful ongoing future role. This is an ongoing challenge, since these push in different directions. Actuaries need practical training and ongoing education with a very detailed understanding of today’s world. The future role requires people to create and implement the powerful new innovations that will be used five years from now. For example, the health industry is facing a major short-term crisis, but there is also an ongoing massive external transformation of the health industry underway. The

Figure 1
Survey Results



Source: Pantely, Susan, and Vigen, Greger, “Accountable Care and Medical Homes Polling Questions,” 2011 SOA Health Meeting.

ongoing struggle is to balance practical support versus disruptive but essential innovation.

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?

GV: My actuarial training created depth—a strong practical and accurate technical financial expertise. My MBA created breadth—a wide business perspective across the industry. But this was just the starting place; continuing improvement is essential. Sometimes it adds depth. Three of us did a 300-page inventory of 123 major health innovations and published it for an SOA research paper on health care measurement. Other times it is about breadth. I track many key developments outside the profession on an ongoing basis.

For me, the final part of leadership is a commitment to share important information and deliver possible ideas and solutions for others.

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

GV: It's hard to shrink this into a short answer. Two early lessons apply to most people. Work with good strong people. Early continuous improvement while taking hard but possible projects creates an interesting and rewarding career.

The later lessons work for me, but not for other people with different personal goals. I still work on the important but tough problems. Some people really appreciate this; others do not. If you remember the old quote, "Grant me the serenity to accept the things I cannot change, courage to change the things I can and wisdom to know the difference." I'm still trying to improve a thing or two.

HW: Let's say you're hiring your successor. What characteristics will help you choose the correct candidate?

GV: I am primarily a consultant and adviser rather than a line manager. Succession planning is different for consulting. It is about continuing personal growth of many people rather than a single replacement for a line-management position. In fact, these people are already moving past me. The people that I support

typically have similar characteristics: strong starting technical expertise, a broad business perspective, want to prepare for the future environment, and aim to have a positive practical impact. I also subcontract for many other actuarial consultants.

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

GV: Continuous improvement means overcoming many continuous challenges—lots of small early challenges as part of normal growth. But, in the middle of my career, I accepted some big challenges. Two come to mind.

My jumbo client faced a very difficult and visible financial problem with a jumbo supplier. More than two years were required to successfully address it, and my role shifted from moment to moment. I was involved in extensive detailed analysis, executive alignment of allies, member education, input on legal issues, review of competing public advertisements in the local newspaper and so on. Eventually, there was a big short-term financial win for my client, but this particular business battle is ongoing.

One other big challenge is ongoing as the world continues to change. How do we keep improving? Inertia versus change? How soon to act? How to educate? A colleague once recommended the 1994 book *Changing for Good* (by James O. Prochaska, John Norcross and Carlo DiClemente). Although dated, I still read it from time to time as a reminder of how people make important changes.

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

GV: The first jump in leadership and management is supervision. This is a natural for many people, since it refines existing skills rather than building new ones. The new supervisor has already built deep expertise and often already supports others.

So, let's talk about the second jump in role instead of the first jump. The actuary needs to be prepared for a big stretch. Your technical role will be very different—you will need to make decisions without all the details and develop a respect for other types of expertise. Much better communication and people skills are needed. You are managing far more people and must work indirectly through their supervisors. ■