

A PUBLIC POLICY ISSUE PAPER

# Insights on the ACA Risk Adjustment Program

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AMERICAN ACADEMY of ACTUARIES

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The American Academy of Actuaries is an 18,500+ member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

# Executive Summary

In this report, the American Academy of Actuaries' Risk Sharing Subcommittee\* reviews the first year of experience under the Affordable Care Act's (ACA) risk adjustment program, focusing on experience in the individual market. The program is intended to transfer funds from insurers with a relatively low-risk enrollee population to insurers with a relatively high-risk enrollee population, with a goal of reducing incentives for insurers to avoid high-risk enrollees. Key findings of the analysis follow.

## 2014 risk adjustment results

- For the 2014 plan year, the risk adjustment program compressed the loss ratio differences among insurers—risk adjustment transfers increased average loss ratios among insurers with low loss ratios and reduced loss ratios for insurers with high loss ratios. This is consistent with the program operating as intended, by shifting funds from insurers with low-cost enrollees to insurers with high-cost enrollees.
- Loss ratios became even more uniform after also incorporating the 2014 reinsurance program payments. The reinsurance program is scheduled to sunset after the 2016 plan year and there is the potential that the risk adjustment program alone won't fully address risk profile differences among insurers.
- Even with the risk adjustment program, loss ratios varied among insurers due to differences in premiums and how well those premiums tracked claims experience, as well as other factors, such as administrative costs.

## Potential factors influencing risk adjustment experience

- Risk adjustment transfers as a percent of premium were more variable and likely to be higher for insurers with a smaller market share. Insurers with a larger market share were by definition closer to the market average while small-market-share insurers were more likely to be skewed toward either low-risk or high-risk individuals.
- Each insurer's premiums should reflect anticipated risk adjustment transfers and therefore in effect the risk of the entire market risk pool, not just the risk of its enrollees. Doing so may have been particularly difficult for 2014 given the uncertainty regarding enrollee risk profiles. Other premium factors, such as provider discounts, utilization management programs, and market penetration strategies, can result in premium variations among insurers. The relative premium position of an insurer within a market will impact the adequacy of premiums after risk adjustment because transfers are determined as a percentage of the state average premium.

\*The Academy's Risk Sharing Subcommittee consists of: Barb Klever, MAAA, FSA, chairperson; Scott Allen, MAAA, FSA; Bethany Axtman, MAAA, EA, FSA; Joseph Bojman, MAAA, FSA; Ben Brandon, MAAA, FSA; Stephen Butz, MAAA, FSA; April Choi, MAAA, FSA; Mick Diede, MAAA, FSA; Kevin Dolsky, MAAA, FSA; Andrew France, MAAA, ASA; Michael Frank, MAAA, ASA, FCA; Janis Frazer, MAAA, FSA; James Gabriel, MAAA, FSA; Annette James, MAAA, EA, FCA, FSA; Jinn-Feng Lin, MAAA, FCA, FSA; Timothy Luedtke, MAAA, FSA; Kevin Mahoney, MAAA, FSA; Tom Messer, MAAA, ASA, FCA; Donna C. Novak, MAAA, ASA, FCA; Linda Peach, MAAA, ASA; Shaun Peterson, MAAA, FSA; Steven Phillips, MAAA, FSA; Mearl Platt, MAAA, FSA; Timothy Robinson, MAAA, FSA; Geoffrey Sandler, MAAA, FSA; Roderick Turner, MAAA, FSA; Cori Uccello, MAAA, FSA, FCA; James A. Vanvig, MAAA, FSA; Jon Wander, MAAA, FSA; Russell Willard, MAAA, FSA; and Laurence Williams, MAAA, FSA

- Risk adjustment experience can vary among insurers due to operational issues (e.g., technical issues with loading enrollment and claims data, timely processing of claims), which may have impacted some small or new insurers to a greater degree than large and more established insurers. Similarly, newer insurers might not have sophisticated coding practices. As time goes on, operational and coding differences among insurers will likely narrow.
- More analysis is needed to examine how experience varies by insurer size to assess the extent to which different financial outcomes are due to different premium levels, risk adjustment, or other factors such as the types of plans offered and relative administrative expenses.

### Implications of potential modifications to risk adjustment model and transfer methodology

- Incorporating pharmacy data into the risk model could improve its predictive accuracy. Pharmacy data are available quickly, but it could be difficult to correctly identify an individual's condition when using a prescription drug that can treat multiple conditions.
- If actual experience suggests that the risk model systematically over- or under-compensates for certain conditions, or the lack of conditions, the risk weights should be reviewed and adjusted as appropriate. In addition, it may be appropriate to incorporate an adjustment for high-cost outliers. The risk adjustment experience should also be reviewed to determine whether the model appropriately compensates plans at different metal tiers.
- It may be appropriate to consider including socio-economic status in the model, using the presence of premium or cost-sharing subsidies as a proxy.
- Adjustments may be needed to more accurately reflect the health spending for partial-year enrollees.
- To the extent that acute conditions are random and not known in advance of enrollment, they do not need to be incorporated into the model.
- Although moving from the existing concurrent model approach to a prospective model would reduce the uncertainty of risk adjustment payments and receipts, a prospective model would be less accurate. In addition, due to the high turnover of coverage in the individual market, information on prior year diagnoses would be missing for a large share of enrollees.
- It would be appropriate to consider basing risk adjustment transfers on the claims-related portion of the state average premium. In contrast, limiting transfer amounts would result in some insurers being under-compensated for their risks and could introduce unintended pricing and marketing strategies.

# Background

The risk adjustment program is one of three risk-sharing programs designed to mitigate the financial risks faced by insurers participating in the new health insurance markets created by the Affordable Care Act (ACA). With 2014 plan year experience now available, it is useful to consider how the program is working and whether modifications are necessary to ensure it is functioning as intended.

This issue paper, developed by the Academy's Risk Sharing Subcommittee, describes the purpose of the risk adjustment program, examines various factors that may have influenced insurer experience under the program and how these factors may have affected small insurers differently than large insurers, and discusses the implications of potential modifications to the risk adjustment methodology. The issue paper focuses primarily on the risk adjustment program in the individual market, but also raises issues particularly relevant to the small group market.

## Overview and Purpose of Risk Adjustment

The ACA expands access to health insurance coverage, in part by prohibiting insurers from denying coverage or charging higher premiums based on gender or health status and limiting premium variations by age. These and other requirements have exposed insurers to additional financial risks, including those resulting from adverse selection. Adverse selection occurs when individuals who anticipate high health care needs are more likely to purchase coverage than those who anticipate low health care needs. The ACA's individual mandate and premium and cost-sharing subsidies are intended to encourage enrollment in health insurance plans and reduce the degree of adverse selection. Some risk remains, however, and insurers enrolling a disproportionate share of individuals with greater health care needs would be at risk for large losses.

The permanent risk-adjustment program aims to reduce the incentives for health insurers to avoid enrolling people at risk of high health spending when premiums are not allowed to fully reflect those higher costs. The program transfers money among insurers based on the risks of the people they enroll and the average premium collected within the state for all insurers. Insurers with a relatively healthier enrollee population contribute to a fund that makes payments to those insurers with a relatively sicker enrollee population. The risk-adjustment program is designed to be revenue-neutral within each state. That is, transfer payments from insurers with a relatively healthier population equal transfer payments to insurers with a relatively sicker population. Transfers are done separately for the individual and small group markets.

In effect, the presence of the risk adjustment program means that insurers need to set premiums based on the risk profile of the health insurance market as whole and also give consideration of their average premium relative to the statewide average premium. Insurers had traditionally set premiums based on the risk profile of their particular enrollees and the need for a competitive premium position within the market. In contrast, under the current system with a risk adjustment program, insurers with sicker-than-average enrollees can set their premiums lower than what would be needed to cover their claims, because they also receive a risk adjustment transfer payment to make up part or all of the difference. Insurers with healthier-than-average enrollees need to set their premiums higher than what would be needed to cover their claims, because a portion of the premium is owed as a risk adjustment transfer payment to other insurers. The relative size for each of these adjustments to the premium is affected by how the insurer average premium compares to the statewide average premium.

While the risk adjustment program provides relief from financial losses associated with having an enrollee population that is sicker than that of other insurers, the program is not intended to ensure that overall market premiums are sufficient to cover the average claims within the state. In other words, if the market as a whole enrolls a more costly population than expected, then the statewide average premium would likely be too low. The risk adjustment program also does not ensure any greater stability from one year to the next in the market premiums. The other two ACA risk-sharing programs—reinsurance and risk corridors—were intended to address these risks during the transition to the new market.

### Summary of the ACA Risk-Sharing Provisions

- **Risk adjustment** is used to transfer funds between insurers based on the relative risk of plan participants.
- **Reinsurance** is used to reimburse insurers for the cost of individuals who have unusually high claims.
- **Risk corridors** are used to mitigate the pricing risk insurers face when they lack data on health spending for potential enrollees.

The transitional reinsurance program, in effect from 2014 to 2016, compensates plans in the individual market when they have enrollees with especially high claims. This program is funded through assessments on insurers and self-funded groups. The program was intended to help stabilize premiums for plans operating under the initial years of the new ACA rules, when individuals with more health care needs were expected to make up a greater share of enrollment than in subsequent years.

The temporary risk corridor program is also in effect from 2014 to 2016. It was established to mitigate the pricing risk that insurers faced because they had very limited data to use to estimate who would enroll in plans operating under the new ACA rules and what their health spending would be. Under the program, insurers receive a payment from the U.S. Department of Health and Human Services (HHS) if their losses exceed a certain threshold; insurers pay the HHS if their gains exceed a certain threshold. This program would mitigate mispricing risk as well as the risk of the market as a whole enrolling a sicker population than expected (e.g., as may have happened in states adopting the transition policy of allowing individuals to keep non-ACA-compliant coverage). However, risk corridor payments to insurers are prorated to the extent that risk corridor collections from insurers fall below risk corridor payments to insurers due to the program being implemented in a budget-neutral manner (i.e., without funding from the federal government). For the 2014 plan year, the proration rate is 12.6 percent, meaning that plans expecting to receive risk corridor payments received only 12.6 percent of those payments.<sup>1</sup>

## 2014 Risk Adjustment Results

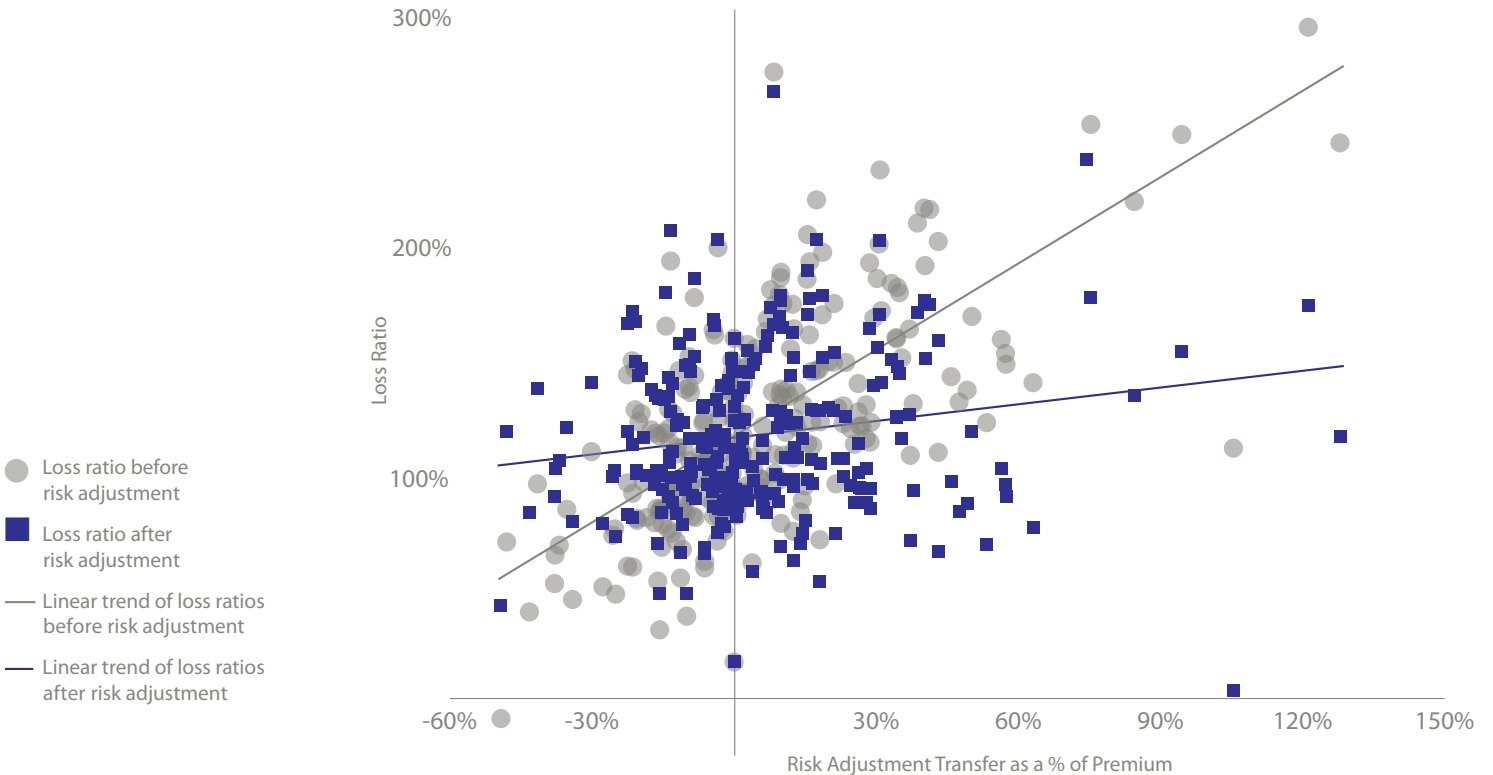
During the summer of 2015, the Centers for Medicare and Medicaid Services (CMS) provided information regarding each insurer's risk adjustment transfer payments or receipts for the 2014 plan year.<sup>2</sup> The issue paper contains insurer-level information on risk adjustment transfer amounts by state and market. It also contains state-level information on average monthly premiums, risk scores, and member months, by market. CMS also released a public use file of 2014 Medical Loss Ratio data, which includes more detailed insurer-level information by state and market, including total premium and member months. The Academy's Risk Sharing Subcommittee combined information from these two sources to examine how risk adjustment transfers varied by loss ratios and premiums for insurers participating in the individual market. (See the appendix "Data and Methods" for more detail on the data sources and analysis methods used in this issue paper.)

<sup>1</sup> For more details on the ACA risk-sharing provisions, see the Academy fact sheet, *ACA Risk-Sharing Mechanisms: The 3Rs Explained*.

<sup>2</sup> See *Summary Report on Transitional Reinsurance Payments and Permanent Risk Adjustment Transfers for the 2014 Benefit Year* (September 17, 2015).

A comparison of risk adjustment transfers to loss ratios (prior to reinsurance payments) illustrates the variation among insurers offering coverage on the individual marketplaces (also known as insurance exchanges) in 2014 (Figure 1). In general, insurers receiving risk adjustment amounts tended to have higher loss ratios than insurers making risk adjustment payments. This was expected, as risk adjustment is intended to transfer funds from insurers with lower-risk enrollees to those with higher-risk enrollees. In general, risk adjustment transfers increased average loss ratios among insurers with low loss ratios, and reduced loss ratios for insurers with high loss ratios. In other words, the risk adjustment mechanism generally brought the loss ratios results closer together for risk adjustment payers and receivers.<sup>3</sup> Importantly, even if the risk adjustment mechanism were to perfectly compensate insurers for the risks they bear, loss ratios would vary somewhat among insurers. This is because loss ratios will also reflect premiums and how well those premiums tracked claims experience, as well as other factors, such as administrative costs.

**Figure 1**  
**Loss Ratios Before Reinsurance Recoveries, Before and After Risk Adjustment, by Transfer Payment as a Percent of Premium, 2014 Plan Year**



Source: American Academy of Actuaries calculations

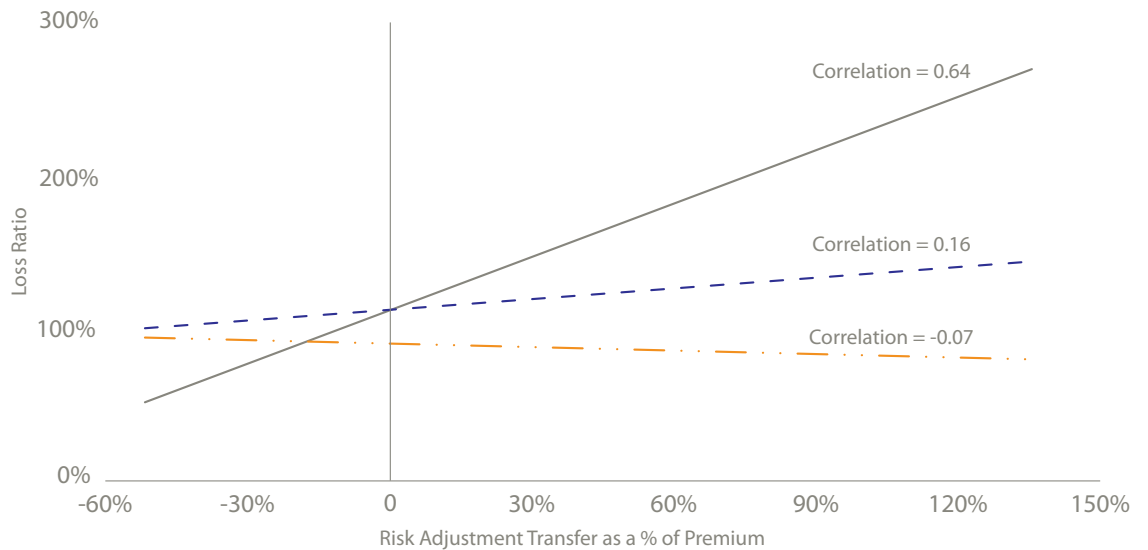
Note: A positive risk adjustment transfer indicates the insurer was a receiver of risk adjustment payments; a negative risk adjustment transfer indicates the insurer made a risk adjustment payment. Loss ratios are calculated differently than those used for MLR requirement purposes. See the appendix "Data and Methods" for details regarding the data source and analysis methods.

<sup>3</sup> Sensitivity analyses were conducted to examine whether the results were biased by insurers with extremely low or high loss ratios before risk adjustment. The general pattern of results held, even when excluding the outlier insurers. Similar patterns were also exhibited when examining allowed claims (rather than loss ratios) by risk adjustment transfers.



The loss ratios became even more uniform among insurers after incorporating the 2014 reinsurance program payments as well (Figure 2). Insurers with higher loss ratios received higher reinsurance payments, which lowered their loss ratios to a greater degree. This pattern was also expected. The combination of the risk adjustment and reinsurance might actually be overcompensating insurers to a slight degree, as loss ratios were below average for those with the highest risk adjustment transfers. This could have resulted from the risk adjustment program not making adjustments for the reinsurance program payments, thereby in effect providing payments for some high-cost enrollees twice—once through risk adjustments and then again through reinsurance. The reinsurance program will sunset after the 2016 plan year. The 2014 results suggest that the risk adjustment program alone may not fully address risk profile differences among insurers. However, as noted above and throughout this issue paper, it is insufficient to assess the adequacy of the risk adjustment program using only loss ratios.

**Figure 2**  
**Loss Ratios, by Risk Adjustment Transfer Payment as a Percent of Premium, 2014 Plan Year**

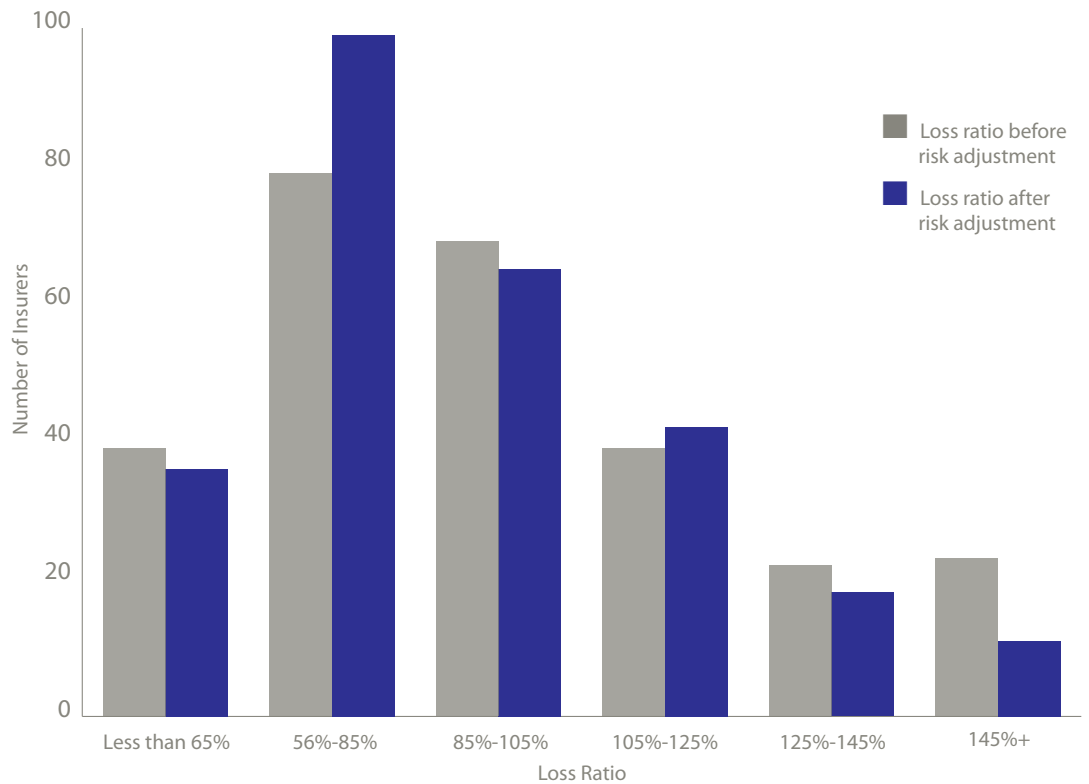


- Linear trend of loss ratios before risk adjustment and reinsurance
- - - Linear trend of loss ratios after risk adjustment
- . . Linear trend of loss ratios after risk adjustment and reinsurance

Source: American Academy of Actuaries calculations  
 Note: A positive risk adjustment transfer indicates the insurer was a receiver of risk adjustment payments; a negative risk adjustment transfer indicates the insurer made a risk adjustment payment. Loss ratios are calculated differently than those used for MLR requirement purposes. See the appendix "Data and Methods" for details regarding the data source and analysis methods.

Figure 3 presents the distribution of loss ratios (including reinsurance payments) before and after risk adjustment to further summarize the impact of the risk adjustment program on loss ratios. After the transfers, the distribution of loss ratios across insurers became more compressed. Although not shown in the figure, the distribution of loss ratios in markets with more insurers generally experienced more compression in loss ratios after risk adjustment than markets with fewer insurers.

**Figure 3**  
**Distribution of Insurers, by Loss Ratios Before and After Risk Adjustment, 2014 Plan Year**



Source: American Academy of Actuaries calculations  
 Notes: Loss ratios include reinsurance payments and are calculated differently than those used for MLR requirement purposes. See the appendix "Data and Methods" for details regarding the data source and analysis methods.

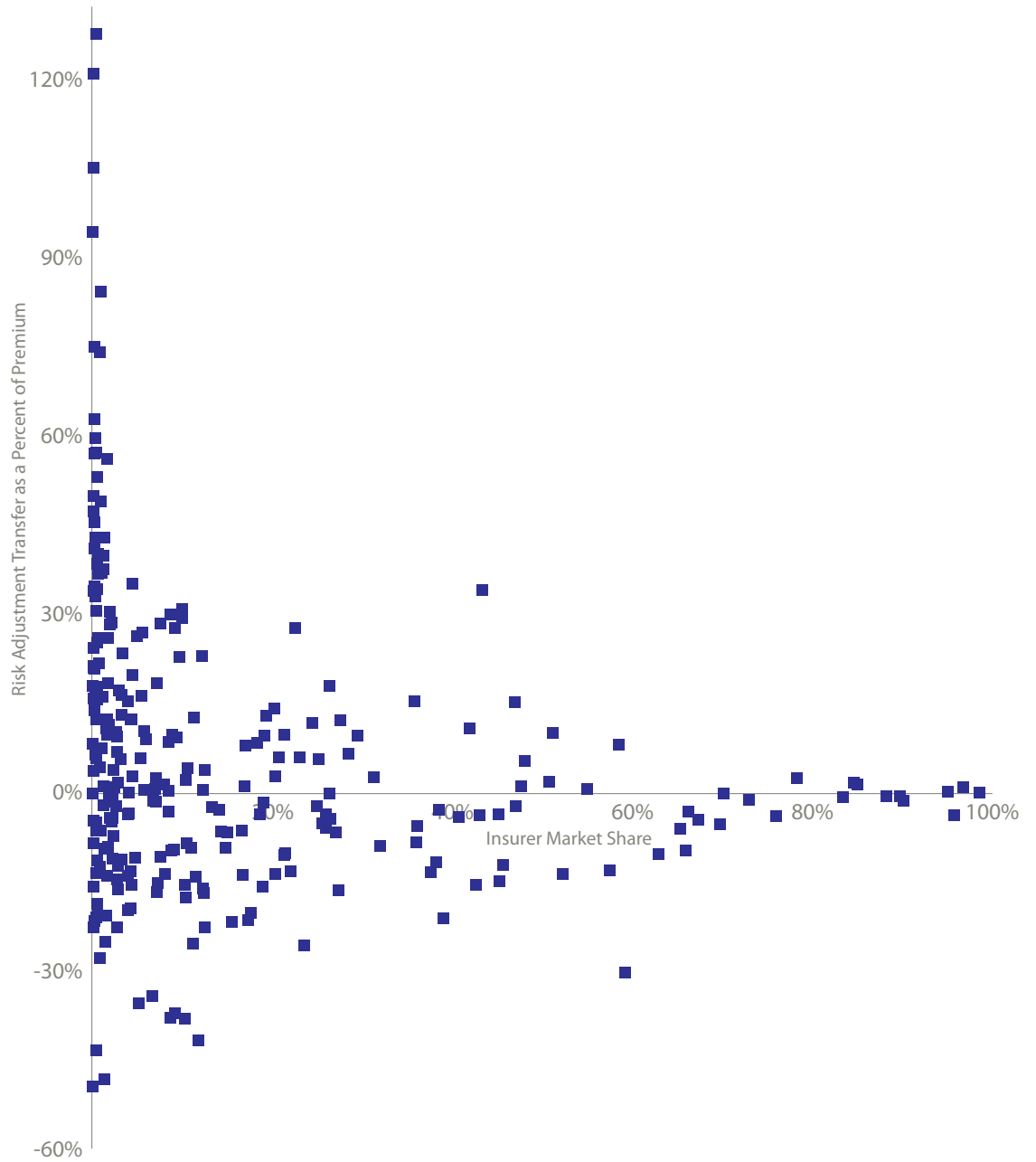
# Potential Factors Influencing Risk Adjustment Experience

## *Impact of market share on relative size of transfers*

The relative size of risk adjustment transfers as a percentage of premium is more variable and more likely to be higher for insurers with a smaller market share. This is due to the normative nature of the program, which compares an insurer's risk to the market average risk. Insurers having a higher market share are by definition more likely to be close to the market average while small market share insurers are more likely to be skewed toward either low-risk or high-risk individuals.

The results of the 2014 risk adjustment transfers for QHP insurers in the individual market illustrate this point. Figure 4 and Table 1 show risk adjustment transfers as a percentage of premium, by the insurer's market share. A negative percent of premium indicates an insurer payment to the risk adjustment pool and a positive percent of premium indicates receipt of risk adjustment funds. The largest variability in risk adjustment payments and receipts as a percent of premiums occurs for insurers with a small market share. Out of 163 insurers with less than 10 percent market share, 60 insurers paid into risk adjustment with transfers up to 49 percent of premium and an average transfer of 14 percent. The remaining 103 insurers with less than 10 percent market share received up to 128 percent of premium in risk adjustment transfers with an average transfer of 27 percent. Risk adjustment transfers as a percent of premium decline dramatically for insurers with larger market shares. Again, this is because large market share insurers are closer to the market average risk.

**Figure 4**  
**Risk Adjustment Transfer as a Percent of Premium, by Insurer Market Share, 2014 Plan Year**



Source: American Academy of Actuaries calculations

Notes: A positive risk adjustment transfer indicates the insurer was a receiver of risk adjustment payments; a negative risk adjustment transfer indicates the insurer made a risk adjustment payment. See the appendix "Data and Methods" for details regarding the data source and analysis methods.

**Table 1. Risk Adjustment Transfers as a Percent of Premium, by Insurer Market Share, 2014 Plan Year**

Market Share	Risk Adjustment (RA) Payers				Risk Adjustment (RA) Receivers			
	Number of Insurers	Avg RA as % of Premium	Minimum RA as % of Premium	Maximum RA as % of Premium	Number of Insurers	Avg RA as % of Premium	Minimum RA as % of Premium	Maximum RA as % of Premium
0 - 10%	60	-14.5%	-49.2%	0.0%	103	27.3%	0.2%	127.9%
10 - 20%	24	-14.8%	-41.5%	-1.4%	11	8.0%	0.6%	23.1%
20 - 30%	12	-9.7%	-25.6%	-2.2%	13	10.1%	0.0%	27.9%
30 - 40%	7	-10.1%	-20.9%	-2.7%	2	9.2%	2.8%	15.6%
40 - 50%	7	-7.9%	-15.4%	-2.1%	5	13.5%	1.3%	34.3%
50 - 60%	3	-18.9%	-30.1%	-12.9%	4	5.3%	0.8%	10.2%
60 - 70%	6	-6.4%	-10.2%	-3.0%	0	na	na	na
70 - 80%	2	-2.5%	-3.8%	-1.1%	2	1.3%	0.0%	2.6%
80 - 90%	3	-0.5%	-0.6%	-0.4%	2	1.7%	1.5%	1.8%
90% +	2	-2.4%	-3.6%	-1.2%	3	0.6%	0.2%	1.1%

Source: American Academy of Actuaries calculations

Notes: A positive risk adjustment transfer indicates the insurer was a receiver of risk adjustment payments; a negative risk adjustment transfer indicates the insurer made a risk adjustment payment. See the appendix "Data and Methods" for details regarding the data source and analysis methods.

### *Impact of premium level of insurer within market*

In a risk-adjusted market, a portion of the total premium collected by all insurers is reallocated to participating insurers based on the documented risk of each insurer's members. As such, it is important that each insurer's premiums reflect the risk of the entire market risk pool and not just the risk of its members. Doing so may have been particularly difficult in 2014, given the tremendous uncertainty regarding the risk profile not only of an insurer's eventual enrollee population, but also that of the market as a whole.

If an insurer's premiums do not correctly account for the difference between its enrollee population and the state average enrollee population, premiums may be too high or too low, resulting in unanticipated losses or gains. If an insurer has low premiums due to incorrectly anticipating the total market and then attracted a healthier-than-average membership resulting in a risk adjustment transfer payment, there may not be sufficient premiums to cover the transfer payment. If an insurer does not have sufficient premiums to cover its claims and administrative expenses, the shortfall could result in solvency problems unless the insurer has adequate surplus or access to additional funds from external sources.

Although all insurers should be setting premiums to reflect the overall market risk profile, other factors will result in premium variations among insurers. These factors include the degree of provider discounts, utilization management programs, and market penetration strategies.

The relative premium position of an insurer within a market will impact the adequacy of premiums after risk adjustment in ACA markets because risk adjustment transfers are determined as a percentage of the state average premium, rather than an insurer’s average premium. Consider the following hypothetical example: Insurer A sets a \$270 monthly premium, which is 10 percent below the market average premium of \$300. It had a relative risk of minus 10 percent, meaning it attracted a healthier-than-average membership, and therefore faced a risk adjustment transfer payment of \$30 (10 percent relative risk\* \$300 average market premium). Although the risk transfer payment is 10 percent of the state average premium, it is 11 percent of the insurer’s collected premium. Insurer C has a premium of \$330 and attracts a 10 percent sicker-than-average membership. It will receive a risk transfer payment of \$30, which is 10 percent of the market average premium but only 9 percent of its own premium. Under these scenarios, both Insurer A and Insurer C are left with a shortfall of about 1 percent of premium if they did not anticipate the difference between their own premium levels and the state average. The opposite impact is possible if a low-cost insurer is on the receiving end of the transfers or a high-cost insurer is a net payer.

**Table 2. Hypothetical Example of Risk Adjustment Payments and Receipts**

	Insurer A	Insurer B	Insurer C	Entire Market
Market Share	15%	70%	15%	100%
Premium	\$270	\$300	\$330	\$300
Relative Risk	-10%	0%	10%	0%
Expected Net Premium	\$243	\$300	\$363	\$301
Transfer PMPM	-\$30	\$0	\$30	\$0
Actual Net Premium	\$240	\$300	\$360	\$300
Excess/(Shortfall)	-\$3	\$0	-\$3	-\$1

Note: All dollar amounts are per-member per-month (PMPM).

It is important that insurers understand these impacts and take them into account when setting premiums. Small insurers and newer insurers may be particularly affected by premium level issues as the greater variability regarding their relative risk profile may make it more difficult to set premiums. In addition, newer insurers may lack the tools to help manage health spending, such as aggressive provider discounts and utilization management programs, yet may decide to set premiums competitively in order to attract enrollees.

### *Operational issues*

Risk adjustment experience can vary among insurers due to operational differences. Some of these operational issues may have impacted small or new insurers more than large and more established insurers. Even large and established insurers (or their third-party administrators), however, may have had operational issues during the first year of the program.

Under the risk adjustment program, insurers were required to implement a new process that involves loading their enrollment and claims data to a distributed data environment. CMS calculates the risk adjustment transfers based on these data. As 2014 was the first year for these requirements, many insurers experienced technical difficulties in formatting and loading their data in the first year of the risk adjustment program's operation. Insurers that were not able to load fully complete data may have received risk scores that underestimated their actual risk. Insurers that did not meet a specified level of data completeness were assessed a default charge that was not based on their risk.

Timely processing of claims is another operational issue that may contribute to differences in risk adjustment outcomes. The individual health insurance market experienced significant growth in membership in 2014. That growth, along with higher utilization rates due to pent-up demand from previously uninsured individuals, strained the claims processing capacity of many insurers. As a result, some insurers experienced unusually long claims processing lags and were unable to submit complete risk adjustment data. Insurers that do not load complete data will likely have lower risk scores, because they may be missing diagnostic data that would have contributed to higher risk scores. In addition, some insurers could not meet the CMS data sufficiency thresholds in 2014 and were required to pay a default risk charge that did not reflect the relative risk of their members compared to the market average risk.

Because insurers have now participated in a full risk adjustment cycle, they should be better prepared to submit their data for 2015 and beyond. However, the transition from using International Classification of Diseases, Ninth Revision (ICD-9) to ICD-10 diagnosis codes may make it difficult for some insurers to submit complete and accurate data for the 2015 risk adjustment cycle.

### *Coding issues*

Another operational factor that can contribute to differences in risk adjustment experience is coding accuracy. Competency in this factor may be less reflective of an insurer's size, and more reflective of whether it had experience in markets with risk adjustment prior to the ACA, such as the Medicare Advantage (MA) market. Newer insurers might not have sophisticated coding processes up and running. To the extent that an insurer is coding more thoroughly than another in a market, it will have an advantage in risk adjustment. For instance, some insurers have developed programs to identify members with potential gaps in their submitted diagnostic information. Once identified, these members could be targeted for chart reviews to determine whether there are missing diagnoses, and if so, missing diagnoses can be submitted in a supplemental diagnosis file.

In addition, some insurers may be more active in educating providers on the importance of accurate diagnosis coding. Others, such as provider-owned insurers, may have more control over their providers and their coding practices, and recent research suggests that coding intensity increases with more vertical integration.<sup>4</sup> On the other hand, some insurers relying heavily on traditional capitation arrangements with their providers may have been at a disadvantage if their capitation arrangements did not contain incentives for appropriate coding.

The sophistication of insurers' information technology systems and their ability to store multiple diagnosis codes, eligibility periods, and other related information also affects the accuracy of the information used to determine risk adjustment transfer payments.

As time goes on, differences in coding are likely to narrow. An insurer's efforts to improve the accuracy of its diagnosis coding data may significantly improve its risk adjustment results. Validation of risk score data is important to ensure the integrity and fairness of the risk adjustment mechanism.

4 Michael Geruso and Timothy Layton, NBER Working Paper 21222, *Upcoding: Evidence from Medicare on Squishy Risk Adjustment*, May 2015.



### *Availability of interim reports*

In order for insurers to know whether they would be paying into or receiving payments from the risk adjustment program and to estimate the magnitude of the transfer, they had to evaluate their risk level compared to the market average risk. Because 2014 was the first year of the marketplaces and the risk adjustment program, however, insurers faced much uncertainty, not only regarding the risk profile of their enrollee population, but also the market average risk. Insurers with larger market share had more information on market average risk than insurers with smaller market share because they make up a larger share of the market average and therefore their experiences were more likely to be close to the average.

In some markets, the state or private consultants ran simulations to help insurers to evaluate their risk adjustment position prior to the release of final risk adjustment results. However, these simulations were not available in all states and some insurers may have experienced risk adjustment transfers different than expected, either in direction or magnitude, particularly in states where new insurers gained a significant share of the market.

CMS is beginning to provide interim reports that should help insurers evaluate their risk adjustment position before the final payment transfers are calculated. Interim reports can allow insurers to identify areas for process refinement before the final risk adjustment calculations are completed. However, insurers should proceed with caution when using interim risk adjustment reports for other purposes, such as year-end reporting or setting premiums for future years. By definition, these interim reports use incomplete data and data submissions may be inconsistent among insurers. Therefore, final risk adjustment results may be very different from interim calculations. In some markets, a significant number of members change insurers from year to year, which means that an insurer's average risk may vary significantly from year to year. Therefore, at least for the first few years of the marketplaces, even if the interim reports are accurate with regard to the risk adjustment transfers an insurer may expect for the previous benefit year, these results may need to be adjusted when setting premiums for future years.

For example, the initial CMS interim report for 2015 based on experience through the first three quarters of 2015 was recently released<sup>5</sup> and insurers are in the process of finalizing the pricing of their 2017 products. Due to the significant amount of movement of members between insurers and between markets (e.g., from the employer market to the individual market and vice versa), insurers will need to consider how the market risk in 2017 may differ from the 2015 experience and how their own experience may differ relative to the market. The first few years of interim reports could provide valuable information to insurers regarding how the results change from the interim period to the final payment calculation.

5 See [Interim Summary Report on Risk Adjustment for the 2015 Benefit Year](#) (March 18, 2016).

## Examining Risk Adjustment Experience by Insurer Size

Entities with access to the 2014 insurer-level experience data underlying the risk adjustment program transfers could undertake analyses to more closely examine how experience varied by insurer size. In particular, to examine whether insurers with larger market shares had better financial outcomes and if so whether favorable outcomes were a result of risk adjustment, analyses could compare larger insurers' financial results with other insurers in a state. The analyses could focus on whether the difference in financial results is due to different premium levels, risk adjustment, or other factors such as the types of plans offered and relative administrative expenses. Rather than examining experience in all states, the analysis could be done on a subset of states that represent a range of market share distributions, including states with a dominant insurer and also states with more evenly distributed market shares among insurers.

The data to perform such analyses would need to include: parent organization, insurer, state, market type (individual, small group, or combined), premium position relative to the market by metal tier, earned premium, member months by metal tier, incurred claims (after cost-sharing reduction reimbursement), relative risk score by metal tier, risk adjustment payment transfer, and reinsurance payment. Although the medical loss ratio and risk corridors (MLR/RC) filings have some of these data elements, a more granular level of information (e.g., measures of premium levels relative to the market) would be needed to provide a more meaningful analysis. In addition, the data in the MLR/RC filings exclude insurers offering coverage only off the marketplace. A more thorough analysis of risk adjustment experience by insurer size would also require data for those insurers.

Because the risk adjustment program is still relatively new, reports provided by CMS have been limited and continue to evolve. The recently released discussion paper from CMS regarding the risk adjustment methodology includes information regarding how risk adjustment transfers varied by metal tier and insurer size, as well as predictive ratios by enrollment duration.<sup>6</sup> Information on predictive ratios by additional characteristics, such as percentile of actual spending, metal level, particular diagnoses, and number of diagnoses, could better evaluate the validity of the risk adjustment model and the effectiveness of the program.

<sup>6</sup> See *March 31, 2016 HHS-Operated Risk Adjustment Methodology Meeting: Discussion Paper* (March 24, 2016).

# Implications of Potential Modifications to Risk Adjustment Model and Transfer Methodology

Potential modifications to the ACA risk adjustment methodology generally fall into two main categories: changes to the underlying risk model and changes to the process for calculating transfer payments. The risk model represents the inputs, logic, and coefficients used to calculate the health risk of an individual person relative to the data used to develop the coefficients. In the risk transfer formula, the individual-level risk scores from the model are aggregated to the plan level and combined with other components to calculate the transfer payment for each insurer. Although some risk adjustment models are more accurate than others, no risk model has a perfect fit to the actual costs of an individual, and no transfer payment will perfectly compensate a plan for the relative health risk of their enrollees.

Possible changes to the risk model include incorporation of pharmacy data, changes to risk weights or additional factors within the model, and shifting from a measurement of concurrent risk to prospective risk. Possible changes to the transfer payment process include changes to the CMS-determined induced demand factor, limits on the transfer payment as a percentage of premium, or scaling the transfer payment to be proportional to the statewide average claims instead of premium. Any of these changes would also have implications for the premium setting process.

## *Incorporating pharmacy data into the risk model*

Incorporating pharmacy data into the risk model could be done through a variety of modifications. A minimally disruptive modification would be to identify the therapeutic classification of medications commonly used to treat the current hierarchical conditions categories (HCCs) and recalibrate the model coefficients. The current model relies only upon diagnosis codes in the medical claims to identify the HCCs for each person. In other risk adjustment models, the incorporation of pharmacy data is known to improve the fit of the risk model to the actual or projected costs. Because pharmacy data are readily available, they could improve the identification of enrollees with HCCs for insurers in cases where the diagnosis was not coded on a claim during the enrollment period. Some insurers may already be performing chart reviews to find these missing diagnoses and submitting them in a supplemental diagnosis file, while other insurers may not be submitting these diagnoses. In addition, the statewide risk profile, and that of insurers, would become apparent more quickly within a calendar year, as pharmacy data are normally available more quickly. Interim reporting could also improve as a result.

One disadvantage of including pharmacy data is the potential for drugs that can treat multiple conditions to misidentify a particular individual's HCC. In addition, the use of pharmacy data may provide incentives for providers to prescribe medicines that are not necessary or favor certain medications that impact risk scores. However, because the individual and small group markets are likely to be a small part of a provider's patient base, this may not be a large concern.

### *Revising the risk model*

If actual experience suggests that the risk model systematically over- or under-compensates for certain conditions, or the lack of conditions, the risk weights should be reviewed and adjusted as appropriate. As part of this review, it would be appropriate to assess whether the model's data source, which is made up of large group claims data, is fully reflective of experience in the individual and small group markets.

For conditions that have undergone recent changes in treatment costs, it may be appropriate to give more weight to recent experience. Risk adjustment typically does not adequately compensate for the highest-cost members. If the ACA risk adjustment experience indicates that the highest-cost conditions are not being adequately compensated for, it might be appropriate for the risk adjustment program to separately compensate plans for these conditions, perhaps by incorporating a transfer for high-cost outliers. Such transfers could be done on a national basis as opposed to the state level, in order to spread the cost of very costly conditions across a larger pool.

The current risk adjustment methodology treats partial-year enrollees as having costs distributed evenly throughout the year and risk scores are assigned based on the portion of the year they were enrolled. However, partial-year enrollees may be undercompensated because many health costs are episodic in nature and there is a shorter timeframe for diagnoses to be recorded. In addition, the small group market typically has plan years that are different than calendar year. This can lead to situations where diagnoses from early in the plan year cannot be used for risk adjustment because they occurred in the prior calendar year.

It may also be appropriate to consider including socio-economic status as a predictor in the risk model, using the presence of premium or cost-sharing subsidies as a proxy. Doing so would require using a different data source to calibrate the model (i.e., one that includes socio-economic information), and the claims experience by socio-economic status would need to be reviewed to determine whether an adjustment is appropriate.

Risk adjustment experience should also be reviewed to examine whether the model appropriately compensates plans at different metal tiers. If plans in certain tiers are under- or over-compensated, adjustments to the risk weight differentials by metal tier and induced demand factors may be needed.

It has been suggested that the risk adjustment transfers should be done at the state-specified rating region level rather than at the state level. The ACA rating rules require insurers to set premiums based on a single risk pool for a state, but premium variations are allowed across regions to reflect underlying health care cost differences. The risk adjustment methodology includes a geographic cost factor to account for these premium variations. Premium variations are not allowed to reflect differences in morbidity levels across regions. Because the risk adjustment methodology compares an insurer's risk to the state average risk, regions with lower morbidity levels will subsidize regions with higher morbidity levels within a state. Doing premium transfers at the regional level, however, could create disparities between regional and statewide insurers, as statewide insurers would not be allowed to vary premiums across regions based on morbidity differences while insurers in a single region could reflect the morbidity of that region in their premiums.

It has also been suggested that more acute conditions should be added to the concurrent risk model. While such a change might improve the predictive accuracy of the model, the purpose of risk adjustment is to reduce the incentives for health insurers to avoid enrolling people known to be at risk of high health spending. Many acute conditions are random and not known in advance of enrollment, and therefore do not contribute to selection risk. As such, it would not be appropriate for these types of conditions to be explicitly incorporated into risk adjustment.

### *Moving to a prospective model*

To predict health spending in any given period, prospective risk models use information on health spending indicators from a previous period. Concurrent risk models use information on health spending indicators during the current period. The current risk adjustment program is a concurrent model—risk scores for the 2014 plan year reflect diagnoses coded during 2014.

An advantage of the prospective model is that once an insurer has knowledge of its enrollee population, it has a good indication of its risk level, thereby reducing some uncertainty. In addition, a prospective model may pose fewer incentives for providers to code current diagnoses or prescribe particular treatments to maximize payments to the plan. As with the similar issue of incorporating pharmacy data into the risk adjustment model, this may not be a large concern because the individual and small group market is likely to be a small part of a provider's patient base.

Moving to a prospective model would have several disadvantages, however. Generally, concurrent models have a better fit than prospective models. A prospective model would not be expected to compensate for higher-risk enrollees as well as a concurrent model does. In addition, a concurrent model can account for certain acute care spending, such as maternity and neonatal care. These conditions are not necessarily random and can contribute to adverse selection.

Another drawback of a prospective model is that diagnoses would need to follow individuals who change insurers from one year to the next. Under the current distributed data model, however, the data needed to calculate risk scores are held by the insurers and would not be available to the new insurer. In addition, newly insured enrollees or enrollees transitioning from other market segments (e.g., large employer group coverage) would not have any prior diagnosis data. For these individuals, risk scores would need to be based solely on demographic information, which is much less predictive than when diagnoses are included. This could dramatically undermine the effectiveness of the risk adjustment program because there is a large amount of turnover in the individual market, with movement of enrollees between insurers and between the individual, Medicaid, and employer markets. A prospective model might be more practical if risk scores could be tracked by individual and could move between insurers.

#### *Limiting transfer amounts*

The risk adjustment model was developed to predict the risk level of an insurer based on the characteristics of its enrollment. If the risk adjustment mechanism is sound, there is little rationale to incorporate caps on transfer amounts, for instance as a percent of premiums. If the risk model coefficients are perceived to be inaccurate, they should be reviewed and revised as appropriate. A related proposal would apply a credibility type test to risk adjustment transfers, limiting the transfers based on insurer size.

Maintaining the zero-sum aspect of the transfer payment process could be difficult if transfer amounts were limited. Essentially the dollar contribution of each plan would need to be calculated both with and without the insurer-specific limits applied. Budget neutrality could then be maintained by comparing insurers paying into the program versus insurers receiving payment from the program and prorating the larger of receipts or payments as needed. If payments to insurers were reduced, then some insurers would be undercompensated for the risk of their enrollee population. Similarly, if payments from insurers were reduced, then some insurers would be paying too little based on their better-than-average risk enrollee population.

A credibility approach would consider the impact of insurer size on the predictive accuracy of the risk adjustment methodology. For instance, CMS has published guidelines regarding the pricing of risk scores that suggest 300 beneficiaries would be required for full credibility for MA plans.<sup>7</sup> A downside of incorporating credibility is that smaller insurers would not want to be subject to credibility caps if they otherwise would be receivers of large risk adjustment transfers. CMS recently provided the option of a default risk adjustment charge for insurers with fewer than 500 member months because these insurers have a disproportionately high operational burden to comply with risk adjustment data submission requirements and have minimal impact on the overall risk adjustment pools.<sup>8</sup>

Limiting transfer amounts could have significant competitive impacts, especially when the caps are much lower than the actual difference in morbidity levels between low- and high-risk enrollees. For example, if risk adjustment payments were capped at a certain percentage of premiums, insurers could develop a strategy for underpricing the market risk and targeting the healthier risks for enrollment. This would undermine the stability of the risk pool because the insurers covering the high-risk enrollees would not be adequately compensated by risk adjustment and would need to increase premiums to cover the risk. Insurers can be expected to adopt risk avoidance tactics when risk adjustment does not adequately compensate for risk.

#### *Basing risk adjustment transfers on a portion of state average premium*

The current transfer formula is based on the state average premium, which includes both the claims and the expense portion of the premium. A portion of an insurer's expenses is not related to claims and does not need to be risk adjusted. The current formula creates a bias against members without conditions because the transfer formula transfers a portion of fixed expenses. A modification to dampen this result would be to index the transfer payment to be proportional to the statewide average claims ratio as a percentage of statewide average premiums. This is a relatively simple modification and would not require any further adjustment to maintain revenue neutrality. The multiple should be greater than an average loss ratio in order to include expenses that are expected to vary with claims.

<sup>7</sup> CMS, *Risk Score Credibility Guidelines*.

<sup>8</sup> See *CMS-9937-F: Final HHS Notice of Benefit and Payment Parameters for 2017* (February 27, 2016).

## ACA Risk Adjustment Compared to Medicare Advantage Risk Adjustment

The ACA risk adjustment model was designed to be similar to the CMS Medicare Advantage (MA) risk adjuster, with some important differences to reflect differences in coverage levels, populations, and goals of the two programs.

While both risk adjustment models are based on hierarchical conditions categories (HCCs), the ACA risk adjustment model is calibrated to reflect the conditions that are most relevant to the ACA population as opposed to the Medicare population. Additionally, the ACA model includes three separate models for adults (ages 21 and over), children (ages 2 to 20), and infants (0 to 2) to reflect sub-population differences.

The MA risk adjustment program is a prospective system that takes into account the member's diagnoses from the prior year, along with demographic factors including age; end-stage renal disease; and institutional, disabled, and Medicaid dual eligible statuses to calculate the risk adjustment factor for the current year. The medical records for Medicare beneficiaries follow them from plan to plan. That is, CMS has a history of all of a beneficiary's Medicare claims since enrolling in the program, and scores will transfer if a beneficiary changes insurers during the annual election period.

The ACA risk adjustment is a concurrent system, in that it considers only diagnoses in the current year. For individuals covered under ACA, insurers have only the individual's claims history since becoming an enrollee with that carrier.

In the MA program, risk scores are calibrated based on spending in fee-for-service Medicare, and higher payments to MA plans with high risk scores are not necessarily fully offset by lower payments to MA plans with low risk scores. In other words, risk adjustment is not necessarily budget-neutral to the Medicare program. In the ACA risk adjustment program, risk adjustment transfers are budget-neutral, so that total risk adjustment receipts equal total risk adjustment payments.



## Conclusion

The risk adjustment program is an important component of the ACA. It aims to help ensure that insurers are appropriately compensated for the risks they bear, thereby reducing incentives for insurers to avoid high-cost enrollees. After one year of risk adjustment experience, there is evidence that the program is working to meet these goals, at least in part. Insurers receiving risk adjustment payments generally tended to have higher loss ratios than insurers making risk adjustment payments. This is consistent with the program operating as intended, by shifting funds from insurers with low-cost enrollees to insurers with high-cost enrollees.

Experience under the risk adjustment program can vary considerably among insurers, however. For instance, risk adjustment transfers as a percentage of premiums are more variable and are more likely to be larger for insurers with smaller market shares. Some of these differences may be due to underlying differences in premiums (e.g., due to different provider discounts), operational issues (e.g., technical issues with loading data), and differences in coding practices, many of which may decline over time. More research is needed to better understand the extent to which different financial outcomes among insurers are due to different premium levels, risk adjustment, or other factors such as the types of plans offered and relative administrative expenses. It will also be important to monitor risk adjustment experience over time, because some of the factors influencing 2014 outcomes may be temporary in nature. For instance, over time there will be less uncertainty regarding insurers' enrollee risk profiles and the risk profiles of the market as a whole. Similarly, insurers will gain experience on operational and technical processes, as well as with coding.

Modifications to the risk adjustment model and the risk adjustment transfer process may be appropriate to further the program's goals. In terms of the risk adjustment model, consideration could be made to incorporating pharmacy data, reviewing and updating the model coefficients and metal tier induced demand factors, incorporating an adjustment for high-cost outliers, including socio-economic status as a variable, and adjusting for partial-year enrollees. In terms of the risk adjustment transfer process, consideration could be made to basing risk adjustment transfers on the claims-related portion of the state average premium.

## Appendix: Data and Methods

The analysis in this issue paper uses data from the 2014 Medical Loss Ratio (MLR) public use file's risk corridor reporting fields and billable member month data in the Summary Report on Transitional Reinsurance Payments and Permanent Risk Adjustment Transfers for the 2014 Benefit Year, revised September 17, 2015.

Because the MLR public use file includes only ACA-compliant business for QHP insurers (insurers selling qualified health plans in the marketplace), the analysis does not include insurers selling plans only off of the marketplace. As a result, data in the figures and tables represent only ACA-compliant business for QHP insurers, including the off-marketplace business for these insurers. In addition, the analysis excludes all insurers from the District of Columbia, Massachusetts, Vermont, and West Virginia. Market share information was not available for insurers in the District of Columbia and Vermont because they have merged their individual and small group markets. Massachusetts used its own risk adjustment methodology and West Virginia had only one QHP insurer with close to 100 percent market share.

The analysis focuses on experience in the individual marketplace, including catastrophic plans. The small group experience was not analyzed because QHP insurers make up a much smaller percentage of the total ACA-compliant market and information on the ACA-compliant business of non-QHP insurers is not available.

Loss ratios are calculated as "allowable costs" under the risk corridor formula, with and without risk adjustment and reinsurance, divided by premium. This is a different loss ratio measure than the ratio used for MLR purposes. The loss ratios do not include risk corridor payments or receipts. Risk corridor "allowable costs" are incurred claims plus health quality improvement expenses less reinsurance and risk adjustment.

All insurers, even those selling only off-marketplace, were included in the summary report on reinsurance and risk adjustment, so it was possible to examine the extent to which excluding off-marketplace-only insurers could bias the issue paper's results.

Table 3 compares insurers included in the MLR public use file to those that were excluded (insurers in D.C., Massachusetts, Vermont, and West Virginia were not included in the comparison). Insurer units reflect the state-level legal entity. Overall, 271 insurers in the individual market were included, and 187 were not. Although the insurers included in the MLR data account for only 59 percent of all risk adjustment eligible insurers, they account for 97 percent of the risk adjustment payments, 76 percent of risk adjustment receipts, and 96 percent of member months. Insurers excluded from the issue paper analysis were more likely to be receivers of risk adjustment transfers, suggesting that the analysis in this paper somewhat understates risk adjustment receipts.

**Table 3. Comparison of Insurers Included in Issue Paper Analysis to Those Excluded**

	Individual Market QHP Insurers as Reported in MLR/RC filing (Included in Issue Paper Charts)	Individual Non-QHP Insurers in Risk Adjustment from RI/RA Report (Not Included in Issue Paper Charts)	Individual Risk Adjustment Eligible Insurers RI/RA Report
Number of Insurers	271	187	458
Insurers Paying RA	125	69	
RA Payments	-\$1,692,252,590	-\$60,312,770	-\$1,748,218,537
Insurers Receiving RA	145	118	
RA Receipts	\$1,325,212,100	\$386,103,288	\$1,748,218,537
Member Months	95,268,414	NA	99,450,209
Absolute Value of Transfer Amounts as Percent of Premium	9.3%	NA	10% Individual 21% Catastrophic 6% Small Group (Includes insurers in DC, MA, VT, and WV)

Note: Unless otherwise noted, insurers in the following locations were excluded from the analysis: D.C., Massachusetts, Vermont, and West Virginia.



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