

## 2017 RADV Preliminary Market Average Error Rates

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### Executive Summary

Wakely collected Wakely National Risk Adjustment Reporting (WNRAR) participants' 2017 Risk Adjustment Data Validation (RADV) data files including their initial validation audit (IVA) results<sup>1</sup> to estimate national HCC Group average failure rates and confidence intervals. Based on these national benchmarks, Wakely also estimated issuer and market-level error rates<sup>2</sup>. Our results included data from a total of 456 HIOS IDs who were subjected to the 2017 benefit year RADV program. This paper presents national level results of our analysis for 2017 as well as a comparison of those results to our 2016 study<sup>3</sup>.

Based on our 2017 national benchmarks, we estimated 85 HIOS IDs would have non-zero error rates and therefore would have adjustments to their risk scores and ultimately their risk transfers. Consequently, based on our survey sample of 65 markets<sup>4</sup>, we estimated 36 markets to have a non-zero average error rate, with 15 of these markets with net positive error rates while the other 21 markets to have net negative error rates. It is important to understand that even if an issuer has a 0% error rate in their RADV results, their risk transfer would still be adjusted if their market has a non-zero error rate.

When we compared the 2017 results to our 2016 RADV whitepaper<sup>5</sup>, the total number of markets with non-zero error rate reduced from 47 markets (out of 61 markets) in 2016 to 36 markets (out of 65 markets) in 2017. Where markets have non-zero error rates in 2017, we also note that the errors tend to be lower than observed in 2016. Further comparisons between our 2016 and 2017 RADV study can be found in Table 1 and Figure 1 below.

To help readers understand the impact of RADV, we have also included a simplified calculation of risk transfer changes in a mock-up market in Appendix A.

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<sup>1</sup> Participation in the 2017 RADV results survey was optional for WNRAR participants. Wakely only provided issuer and market results to participants who voluntarily submitted their RADV results.

<sup>2</sup> RADV error rates are used to adjust issuer's plan liability risk score (PLRS). 2017 RADV error rates will adjust 2018 PLRS. This will subsequently impact 2018 risk adjustment transfers.

<sup>3</sup> 2017 results are based on our understanding and interpretation of guidance in 2019 payment notice and 2017 RADV Protocols while 2016 results are compiled based on CMS-released issuer results.

<sup>4</sup> 35 small group markets and 30 individual markets.

<sup>5</sup> <https://www.wakely.com/blog/2016-radv-market-average-error-rates>

## Background

CMS released final details for the 2017 RADV program, including the calculation details to determine the issuer error rate, in the 2019 Notice of Benefit and Payment Parameters (NBPP)<sup>6</sup>. Subsequently, CMS issued 2016 pilot RADV results and issuer files on July 18, 2018 using the methodology finalized in the 2019 NBPP. The 2016 RADV results files contain issuer-specific error rates, but they did not include any market average error rates. Wakely compiled WNRAR participants' RADV results and published a whitepaper estimating market average error rates in October 2018<sup>7</sup>.

For the 2017 RADV program, issuers were required to submit their initial validation audit (IVA) Package One Reporting to CMS on January 11<sup>th</sup>, 2019. After completing subsequent steps including the secondary validation audit (SVA), CMS is expected to release the 2017 RADV results in May of 2019. In this whitepaper, Wakely estimated preliminary 2017 RADV market average error rates using participant's IVA results and compared the preliminary 2017 results to our 2016 RADV study.

## Methodology

Wakely sent participating issuers our project codes to summarize preliminary 2017 RADV files, namely 2017 RADVEE, RADVDE, RADVPSF, RATEE and IVA\_Findings\_Report. Wakely's project codes compiled and summarized issuer's IVA results by member cohorts. No PHI or member level details were provided to Wakely. We reviewed summary files for reasonability, and in many cases, worked with issuers to address potential issues but did not audit the data and cannot guarantee that it was error-free.

Using participants' IVA results, Wakely compiled the reported EDGE server recorded Hierarchical Condition Categories (HCCs) and IVA substantiated HCCs for sampled RADV members at the issuer level to determine HCC failure rates nationally. Wakely, then, ranked each HCC's failure rates across all participants to estimate HCC Groups – namely, Low, Medium and High HCC Groups. The mean failure rate and confidence interval for each HCC Group were calculated separately to establish the estimated national benchmarks.

Using these national benchmarks, we estimated issuers' error rates based on our understanding of available guidance related to CMS' methodology. Market average error rates were then estimated by weighting each issuer's estimated 2017 RADV error rates with their 2018 total risk as estimated in the WNRAR project. However, we did not include all submitted HIOS IDs in our market error rate calculation. 2017 HIOS' that are no longer present in the 2018 ACA market were excluded in our determination of market error rates<sup>8</sup>. Based on our understanding, issuers that are new to the ACA market in 2018 will be assumed to have a 0% error rate since RADV does not directly apply to them (no adjustment to their risk scores through RADV). These issuers are included in our market error rate calculation with 0% error rate.

In some markets, we did not have full participation as there were issuers who did not participate in the survey. In most markets, we had over 90% participation, including a few markets with 100% participation.

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<sup>6</sup> <https://www.gpo.gov/fdsys/pkg/FR-2018-04-17/pdf/2018-07355.pdf>

<sup>7</sup> <https://www.wakely.com/blog/2016-radv-market-average-error-rates>

<sup>8</sup> If these issuers have a positive error rate, their results may still impact the 2017 risk transfers retroactively.

However, there are a few markets where participation was lower than 75%. We included these markets in our study with the exception of two unique markets<sup>9</sup>.

Please review the caveats and limitations tab in the Excel file delivered to your organization with this report for additional information and important data notes. Additional caveats specific to this paper are also included in the Disclosures and Limitations section below.

Results and Observations

We reported back estimated market average error rates in 65 markets, which includes 30 individual markets and 35 small group markets. We did not include catastrophic market results in this analysis. Based on our estimates, we expect 36 markets to have non-zero average error rates. For all issuers within a market with non-zero error rates, we expect their 2018 risk transfers to be adjusted as a result of the 2017 RADV program. Of these 36 markets, based on the IVA, we are expecting 15 markets with positive error rates and 21 markets with negative error rates.

Table 1 below summarizes our findings for 2016 and 2017 RADV study.

**Table 1: Summary Statistics Based on Wakely RADV Study**

Data Element	2016 RADV <sup>10</sup>	2017 RADV
HIOS ID Count <sup>11</sup>	273	456
Count of Issuers with Non-zero Error Rate	65	85
Positive Error Rate	52	64
Negative Error Rate	13	21
Market Count	61	65
Count of Markets with Non-zero Error Rate	47	36
Positive Error Rate	31	15
Negative Error Rate	16	21
Max Estimated Market Error Rate	11.47%	9.76%
Min Estimated Market Error Rate	-6.27%	-4.32%
Average Market Positive Error Rate	2.98%	1.83%
Average Market Negative Error Rate	-2.32%	-1.17%

<sup>9</sup> We excluded two markets with lower than 75% participation rate as they have zero error rates. This would have overstated the number of markets with zero error rates as it is still possible for non-participants to have error rates and thus non-zero market average error rates.

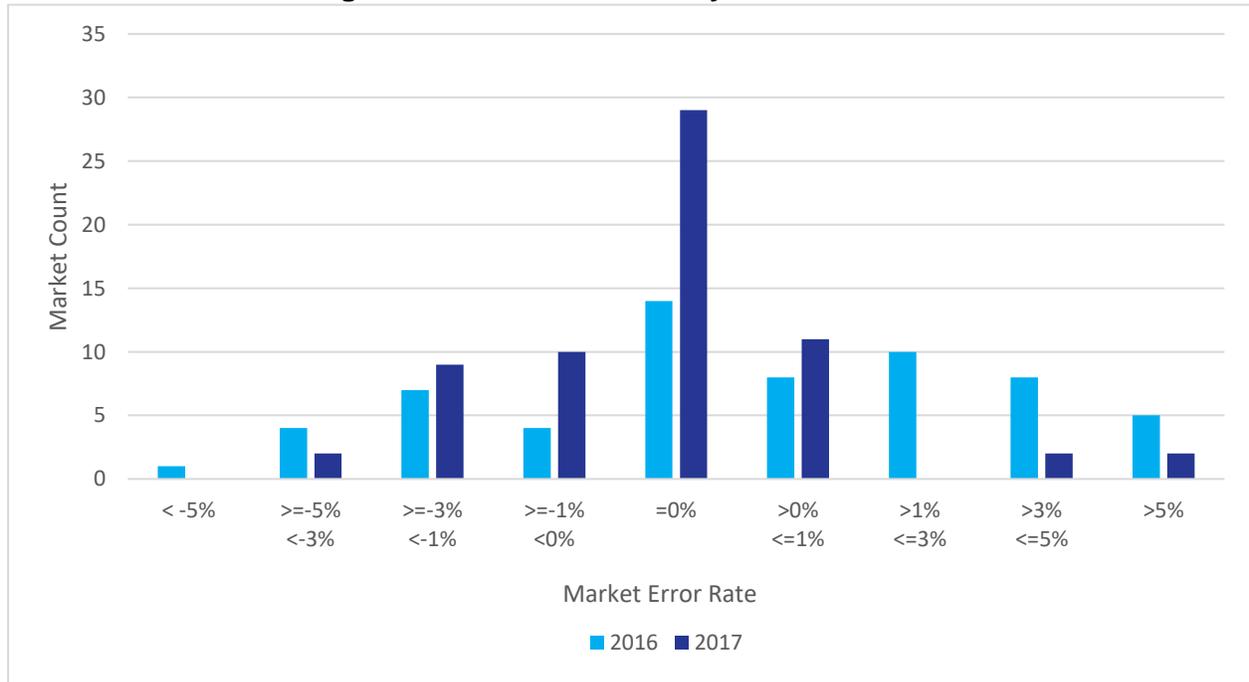
<sup>10</sup> 2016 RADV results shown here include all issuers, including outliers who were identified by CMS in the 2016 RADV Memo.

<sup>11</sup> 2016 HIOS ID count only includes HIOS IDs used in calculating market error rates. 2017 HIOS ID count includes all issuers who submitted their RADV results, including issuers who do not have any members in 2018.

A negative market average error rate indicates that the market average risk scores are expected to increase. For example, if an issuer’s RADV results shows that it had a zero error rate but the market average error rate is negative, the issuer’s risk score will remain the same while the market average risk score is expected to increase. This will result in a lower relative risk after RADV for that issuer and hence risk transfer receipt will decrease or risk transfer charge will increase for that issuer. We have included a simplified sample calculation of how RADV error rates may impact issuer’s risk transfers in Appendix A.

As shown in Figure 1 below, the number of markets with 0% average error rate increased significantly from 2016 to 2017. In addition, we also see that the number of markets with average positive error rate decreased significantly (right tail of Figure 1) while the number of markets with negative error rates stayed relatively the same (left tail of Figure 1). However, it is important to note that the magnitude of error rates for markets with non-zero error rates are lower in 2017 than compared to 2016 (closer to the middle of the chart).

**Figure 1: Count of Markets by Error Rate Bins**



The issuer error rates, which ultimately determine the market error rates discussed above, are calculated by comparing each issuer’s failure rates by HCC Group against the national distribution. More specifically, if an issuer’s HCC Group failure rate is outside of a 95% confidence interval, an adjustment to the issuer’s PLRS will be made; they will have an error rate. Therefore, it is important to understand the data at the tails of the distribution (near the 95% confidence interval) are susceptible to moving in and out of the 95% confidence interval.

**Figure 2: Tail Analysis – Count of Issuers with HCC Group Failure Rates Near the 95% Confidence Interval Threshold**

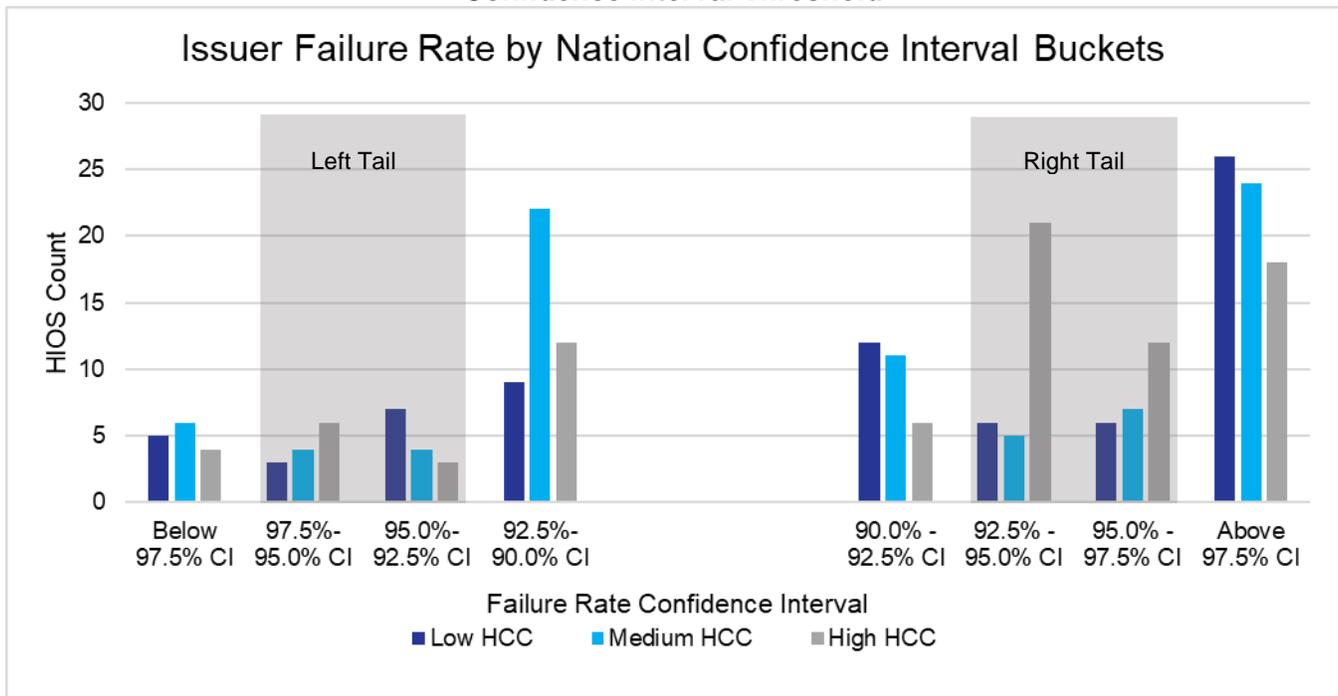


Figure 2 above shows the count of HIOS IDs at the tails of the distribution in our study (outside the 90% confidence interval). Issuers who are in the left tail section and over 95.0% of confidence interval will have a negative adjustment<sup>12</sup> (i.e. risk scores are adjusted up) while issuers in the right tail section will have a positive adjustment.

Since our study did not include all HIOS IDs that operated in 2017, we note that our estimated national benchmarks for average failure rates and confidence intervals by HCC Group is likely inaccurate and will vary when additional HIOS IDs are included in CMS final calculation. Therefore, we are showing in Figure 2 the number of issuers who are outside of the 90% confidence interval (both tails). Given that current guidance indicates that HCC Group adjustment only occurs if an issuer’s failure rate falls outside of the 95% confidence interval, issuers who fall between the 92.5% confidence interval and the 97.5% confidence interval (shaded in the Figure above) may fall in and out of the 95% confidence interval depending on the final determination of confidence interval<sup>13</sup>. The confidence intervals will change as more data is added. In addition, we are also not showing issuers who are within the 90% confidence intervals in the figure above.

<sup>12</sup> HCC Group adjustments will ultimately result in error rates for the HIOS ID.

<sup>13</sup> Confidence interval is calculated based on the standard deviation of each HIOS IDs to the mean failure rate as determined nationally. Our study only included 456 HIOS IDs and we expect CMS final results to include much more HIOS IDs (closer to 600).

Disclosures and Limitations

The data included in this report and produced by the Wakely National Risk Adjustment Reporting (WNRAR) project are inherently uncertain and relies upon data provided by WNRAR participants. Users of this whitepaper should be qualified to use it and understand the results and the inherent uncertainty. Wakely makes no warranties regarding the results. Actual results will vary, potentially significantly. We strongly recommend that Wakely review the results of any modeling and the appropriateness of applications that use the summaries contained herein.

We performed reasonability checks on the data where possible, but did not audit the data. RADV results from issuers not participating in this optional survey may change the results provided in this whitepaper. Other uncertainty in the estimates contained in this workbook include but are not limited to the following:

1. The calculated market average error rates are based on our understanding of the RADV program. CMS has not released any official guidance on how the RADV error rates will be applied to the ACA risk adjustment program. Our interpretation of the available methodology may be flawed or inconsistent with the actual approach that will be used.
2. This results presented in this whitepaper are based initial validation audit (IVA) results due to the timing of this analysis. This does not include any adjustments made through the secondary validation audit (SVA) that would be performed after our data collection.
3. Not all health plans in each state and market participated in the study. In addition, we do not have full national participation. CMS national benchmark will include all HIOS IDs subjected to the RADV program.
4. Wakely used 2017 RADV error rates weighted by 2018 total risk (as reported in our WNRAR study) to estimate market average error rates. 2018 market membership and total risk may not be representative of future market membership. If an issuer with a large RADV error rate gains or loses significant market share in future years, the results may be significantly impacted.
5. Our interpretation of CMS guidance on RADV<sup>14</sup> may not be perfect. Where model parameters or methodology are not clear or appear to be erroneous, we have made decisions on what we believe to be the most appropriate approach. Actual implementation by CMS may be different than we have assumed.
6. We did not consider regulatory changes currently being considered or which may be developed and enacted after the release of this report.

Wakely is not a legal or audit firm. Please consult your accounting, legal and actuarial experts in developing your internal estimates.

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<sup>14</sup> [https://www.regtap.info/uploads/library/HRADV\\_2017Protocols\\_Updates\\_v2.0\\_081018\\_v1\\_5CR\\_081018.pdf](https://www.regtap.info/uploads/library/HRADV_2017Protocols_Updates_v2.0_081018_v1_5CR_081018.pdf)

## Appendix A – Sample Illustration of Risk Transfer Impact

In this section, we are illustrating a simplified example of the potential impact of the RADV program on issuers’ risk transfers. These results do not represent actual results from any markets/participants in our 2017 RADV study above. It is only provided for discussion purposes.

### Exhibit A1 – Risk Transfer Changes in Mock-up Market

Statewide RA Premium (P): \$500

A				E = B / Mrkt(B)		G		I* = E*(1+H)* (1-G)		K=J-F		L=K/(A*P)	
B				F = (E-1)*A*P		H		J=(I-1)*A*P					
C = A * B													
Issuer	Billable Member Months	PLRS	Total Risk	Pre-RADV Transfers		RADV Results		Post-RADV Transfers		Change in Transfers			
				Relative Risk	Transfer	Issuer Error Rate	Market Error Rate <sup>1</sup>	Relative Risk <sup>2</sup>	Transfer	Change in Transfers	% of Premium		
Issuer A	50,000	1.10	55,000	1.116	\$ 2,898,551	-6.0%	3.4%	1.224	\$ 5,592,499	\$ 2,693,949	10.8%		
Issuer B	100,000	1.00	100,000	1.014	\$ 724,638	0.0%	3.4%	1.049	\$ 2,474,270	\$ 1,749,632	3.5%		
Issuer C	200,000	0.95	190,000	0.964	\$ (3,623,188)	8.0%	3.4%	0.917	\$ (8,274,976)	\$ (4,651,787)	-4.7%		
Market	350,000	0.99	345,000	1.000	\$ -	3.4%	3.4%	1.000	\$ -	\$ -	0.0%		

<sup>1</sup> Market error rate calculated by taking issuer error rate weighted by total risk; H = SUMPRODUCT(C,G)/SUM(C)

<sup>2</sup> Post-RADV relative risk is calculated using a simplified formula

In our mock-up market, we show three issuers with varying market share and risk profiles. Relative risk shown in the example above is simplified for illustrative purpose and is calculated using plan liability risk scores (PLRS) only. Actual calculation is more complex<sup>15</sup>. In this example, we note that Issuer A and Issuer C had error rates based on their RADV results (-6.0% and +8.0% respectively). This resulted in a market average error rate of 3.4%. Then, we estimated post-RADV relative risk using a simplified calculation<sup>16</sup>.

As shown in column L of the above exhibit, RADV results can significantly impact an issuer’s risk transfer results. The change in risk transfers range from -4.7% to 10.8% for issuers in this mock-up market. Further, we note that Issuer B had their risk transfers adjusted by 3.5% of statewide average premium despite their own RADV results yielding a 0% error rate. The illustration above is simplified but highlights a key point – even if an issuer error has a 0% error rate, risk adjustment transfers can still be affected by a significant amount if at least one issuer within its market is adjusted through RADV.

<sup>15</sup> The actual formula to calculate relative risk is as follows:

$$1 + \left[ \frac{PLRS_i \times IDF_i \times GCF_i}{\sum_i (s_i \times PLRS_i \times IDF_i \times GCF_i)} - \frac{AV_i \times ARF_i \times IDF_i \times GCF_i}{\sum_i (s_i \times AV_i \times ARF_i \times IDF_i \times GCF_i)} \right]$$

<sup>16</sup> We expect CMS to ultimately use the issuer error rate from RADV to adjust issuer PLRS at each plan ID and rating area level for that HIOS.