



# Final 2021 and 2022 HHS HCC Risk Adjustment Model Impact Estimates

Chia Yi Chin, ASA, MAAA  
720.226.9819 • [chiayi.chin@wakely.com](mailto:chiayi.chin@wakely.com)

Maris Hayes, ASA  
720.531.7030 • [maris.hayes@wakely.com](mailto:maris.hayes@wakely.com)

## Executive Summary

Wakely provides participating issuers with risk adjustment (RA) estimates for the Affordable Care Act's (ACA) individual and small group markets under the Wakely National Risk Adjustment Reporting (WNRAR) project. We collected<sup>1</sup> WNRAR participants' 2020 data incurred and paid through April 30<sup>th</sup>, 2021 scored with the 2020 Department of Health and Human Services (HHS) Hierarchical Condition Category (HCC) model as well as the final 2021<sup>2</sup> and 2022<sup>3</sup> HHS HCC models. We compared results from the three models and noted the following:

- From the 2020 model to the 2021 model, we estimate an increase of 8.8% and 10.6% in estimated absolute transfer dollars for the individual and small group markets respectively. Issuer's relative risk generally moved away from 1.0 (or the market average). That is, many issuers estimated<sup>4</sup> to be payers in the 2020 model are estimated to pay more in the 2021 model. Likewise, many issuers estimated<sup>4</sup> to be receivers in the 2020 model are estimated to receive more in the 2021 model.
- From the 2021 model to the 2022 model, we estimate an increase of 2.3% and 1.7% in estimated absolute transfer dollars for the individual and small group markets respectively. Issuer's relative risk generally moved away from 1.0 (or the market average), however this trend was less significant than what we saw in the 2021 model as noted above. Similarly, many issuers estimated to be payers in the 2021 model will pay more in 2022, and vice versa.
- The 2020 nationwide, market average risk scores in the individual and small group markets decreased by 1.59% and 0.96% respectively when rescored using the final 2021 risk adjustment model, holding the membership constant.
- The estimated 2021 nationwide, market average risk scores in the individual and small group markets increased by 1.00% and 1.04% respectively when rescored using the final 2022 risk adjustment model, holding the membership constant.
- Each issuer's plan liability risk score (PLRS) change due to the model changes in 2021 and 2022 varied, often significantly. For example, for 10% of the individual market issuers (at the 90<sup>th</sup> percentile), we estimated their risk scores to decrease by 3.7% and 0.1% from 2020 to 2021 and from 2021 to 2022 respectively. Note that PLRS is a component of the risk adjustment model. While risk

<sup>1</sup> We employ a distributed data approach to collect summarized information.

<sup>2</sup> Final 2021 risk adjustment model based on 2021 Final Notice of Benefit and Payment Parameters (NBPP) <https://s3.amazonaws.com/public-inspection.federalregister.gov/2020-10045.pdf>

<sup>3</sup> Final 2022 risk adjustment model based on 2022 Notice of Benefit and Payment Parameters (NBPP) <https://public-inspection.federalregister.gov/2021-09102.pdf>

<sup>4</sup> As estimated through our WNRAR 202012R reporting run, with enrollment and claims data through December 31, 2020, paid through April 30, 2021

scores may increase or decrease from year-to-year, risk transfers are calculated based on relative to market average basis.

## Background and Methodology

Each year, changes to the HHS HCC risk adjustment model are summarized by Centers for Medicare and Medicaid Services (CMS) in its annual Notice of Benefit and Payment Parameters (NBPP). In the final 2021 NBPP, CMS finalized significant changes to the 2021 HHS HCC risk adjustment model, including but not limited to:

- Reclassifying hierarchical condition categories (HCCs) to reflect the coding changes due to the transition to ICD-10.
- Recalibrating HCC risk coefficients based on 2016, 2017, and 2018 EDGE server data.
- Adjusting risk coefficient for Hepatitis C drugs' plan liability assuming the availability of generics.
- Including pre-exposure prophylaxis (PrEP) plan liability in preventative services.

More information on the 2021 HHS HCC risk adjustment model can be found in the final 2021 NBPP.<sup>5</sup> A brief reading is also available through Wakely's summary of the final 2021 NBPP.<sup>6</sup>

In the final 2022 NBPP, CMS did not finalize the proposed policies to add severity and transplant indicators, the two-stage specification adjustment, and their proposed changes to enrollment duration factors. The finalized changes to the 2022 HHS HCC risk adjustment model include the following:

- The model will include the same HCCs as the 2021 risk adjustment model
- Continue to recalibrate HCC risk coefficients based on 2016, 2017, and 2018 EDGE server data (same underlying data as 2021 model).

More information on the final 2022 HHS HCC risk adjustment model can be found in the final 2022 NBPP.<sup>7</sup> A brief reading is also available through Wakely's summary of the final 2022 NBPP.<sup>8</sup>

As a result of these final changes, direct comparison of year-over-year total risk scores is not appropriate as risk coefficients and HCCs will be significantly different in 2021 and 2022 compared to 2020. In order to estimate the impact of the 2021 final and 2022 final risk adjustment models, Wakely collected needed information in the distributed project codes based on the model changes and collected summarized results from WNRAR participants. It is important to note that Wakely does not make adjustments to the results collected, so the analysis and its accompanying estimates do not consider year-over-year changes in demographics, morbidity, coding improvement, or changes in laws and regulations. The membership distribution and diagnosis codes are held constant year-over-year in this analysis.

<sup>5</sup> <https://s3.amazonaws.com/public-inspection.federalregister.gov/2020-10045.pdf>

<sup>6</sup> <https://www.wakely.com/sites/default/files/files/content/wakely-summary-2021-final-nbpp-51320200.pdf>

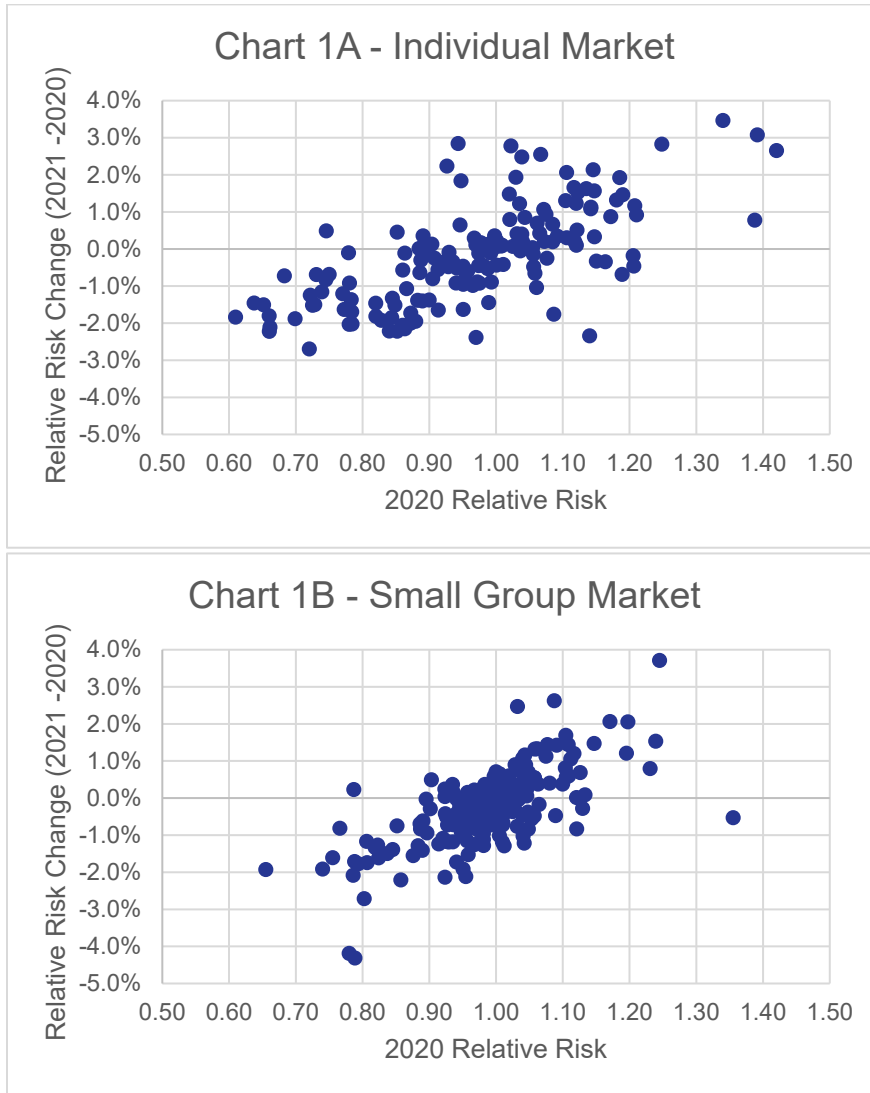
<sup>7</sup> <https://public-inspection.federalregister.gov/2021-09102.pdf>

<sup>8</sup> <https://www.wakely.com/sites/default/files/files/content/wakelysummary2022finalnbpp51021.pdf>

## Observations

Charts 1A and 1B below show the relative risk<sup>9</sup> change between the 2021 and 2020 model by the 2020 model relative risk. As shown, the relative risk of issuers in the 2020 risk adjustment model moves away from 1.0 when data is rescored on the 2021 risk adjustment model. Note that a 1.0 relative risk represents the market average risk.

**Chart 1A-B: Issuer Relative Risk Change (2021-2020)  
based on 2020 Relative Risk**



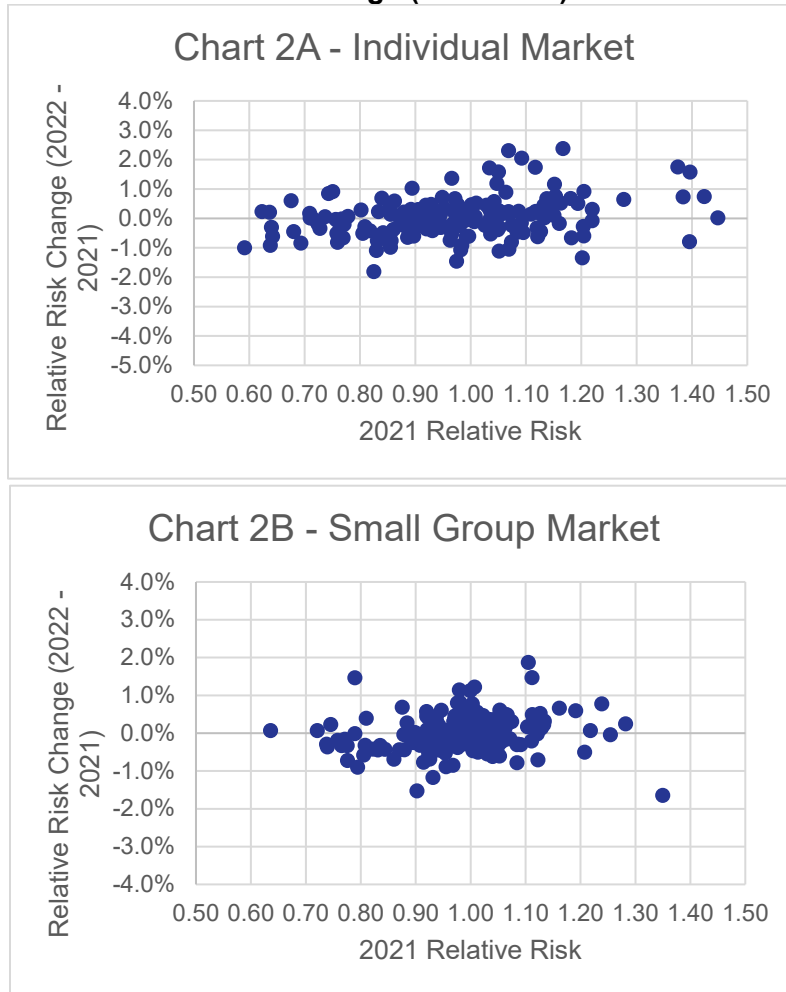
<sup>9</sup> Since the risk adjustment program ultimately transfers premiums from issuers with higher risk to issuers with lower risk within a given market, we are using “relative risk” to determine the impact of these model changes. To elaborate, issuer with a relative risk that is higher than 1.0 is considered riskier than market average, and will receive risk transfer payments, and vice versa. Relative risk includes other risk adjustment factors such as allowable rating factors, induced demand factors and geographic cost factors.

As a result, we observe the following changes in payer and receiver transfer status<sup>10</sup>:

- Of all issuers estimated to be payers in the 2020 model (below 1.0 relative risk), 79.3% and 82.9% are estimated to pay more under the 2021 model for the individual and small group markets respectively.
- Of all issuers estimated to be receivers in the 2020 model (above 1.0 relative risk), 73.0% and 65.1% are estimated to receive more under the 2021 model for the individual and small group markets respectively.

Charts 2A and 2B below show the relative risk change between the 2022 and 2021 model by the 2021 model relative risk. As shown, the relative risk of issuers in the 2021 risk adjustment model moves *away from* 1.0 when data is rescored on the 2022 risk adjustment model. This trend is less in magnitude than the trend seen from the 2020 model to the 2021 model.

**Chart 2A-B: Issuer Relative Risk Change (2022-2021) based on 2021 Relative Risk**



<sup>10</sup> Please reference Appendix A for more information on payer/receiver status

For 2022 model, we observe the following changes in payer and receiver transfer status <sup>11</sup>:

- Of all issuers estimated to be payers in the 2021 model, 61.8% and 62.1% are estimated to pay more under the 2022 model for the individual and small group markets respectively.
- Of all issuers estimated to be receivers in the 2021 model, 66.3% and 51.4% are estimated to receive more under the 2022 model for the individual and small group markets respectively.

As shown in Charts 1 and 2, relative risk changes varied significantly from one issuer to another. Therefore, each issuer’s risk transfer changes due to model changes may vary significantly. In Tables 1 and 2, we show issuer absolute risk transfer changes as a percent of statewide market average premium to illustrate the impact of the final 2021 and final 2022 risk adjustment models.

**Table 1: Issuer Absolute Transfer Change from 2020 to 2021 RA Model as a Percent of Statewide Market Average Premium**

Absolute Transfer Change as % of Statewide Market Average Premium		
Metric	Individual	Small Group
Average	1.0%	0.5%
10 <sup>th</sup> Percentile	0.1%	0.0%
25 <sup>th</sup> Percentile	0.3%	0.1%
50 <sup>th</sup> Percentile	0.8%	0.4%
75 <sup>th</sup> Percentile	1.4%	0.9%
90 <sup>th</sup> Percentile	1.9%	1.1%

**Table 2: Issuer Absolute Transfer Change from 2021 to 2022 RA Model as a Percent of Statewide Market Average Premium**

Absolute Transfer Change as % of Statewide Market Average Premium		
Metric	Individual	Small Group
Average	0.4%	0.2%
10 <sup>th</sup> Percentile	0.1%	0.0%
25 <sup>th</sup> Percentile	0.2%	0.1%
50 <sup>th</sup> Percentile	0.3%	0.1%
75 <sup>th</sup> Percentile	0.5%	0.3%
90 <sup>th</sup> Percentile	0.7%	0.4%

<sup>11</sup> Please reference Appendix A for more information on payer/receiver status

To further understand the risk score changes due to the new risk adjustment models, we compared how the different components of risk scores as a percentage of total risk score changed between the 2020, 2021, and 2022 models. Table 3 and 4 below show changes in the components of risk scores.

**Table 3: Percentage of Total Risk Score by Component (2020 v 2021 HHS Model)**

	Individual			Small Group		
	2020 Risk Score <sup>1</sup>	2021 Risk Score <sup>1</sup>	Change in Percentage (2021-2020)	2020 Risk Score <sup>1</sup>	2021 Risk Score <sup>1</sup>	Change in Percentage (2021-2020)
<b>Demo</b>	14.8%	12.4%	-2.5%	20.4%	17.3%	-3.2%
<b>HCC</b>	71.0%	71.0%	0.0%	65.2%	66.3%	1.1%
<b>RXC</b>	12.8%	15.6%	2.9%	12.5%	15.0%	2.5%
<b>EDF</b>	1.4%	1.0%	-0.4%	1.9%	1.4%	-0.4%

<sup>1</sup>Risk values presented exclude CSR and billable member month adjustments.

**Table 4: Percentage of Total Risk Score by Component (2021 v 2022 HHS Model)**

	Individual			Small Group		
	2021 Risk Score <sup>1</sup>	2022 Risk Score <sup>1</sup>	Change in Percentage (2022-2021)	2021 Risk Score <sup>1</sup>	2022 Risk Score <sup>1</sup>	Change in Percentage (2022-2021)
<b>Demo</b>	12.4%	12.1%	-0.2%	17.3%	17.3%	0.0%
<b>HCC</b>	71.0%	69.2%	-1.8%	66.3%	64.1%	-2.1%
<b>RXC</b>	15.6%	17.7%	2.0%	15.0%	17.2%	2.1%
<b>EDF</b>	1.0%	1.0%	0.0%	1.4%	1.4%	0.0%

<sup>1</sup>Risk values presented exclude CSR and billable member month adjustments.

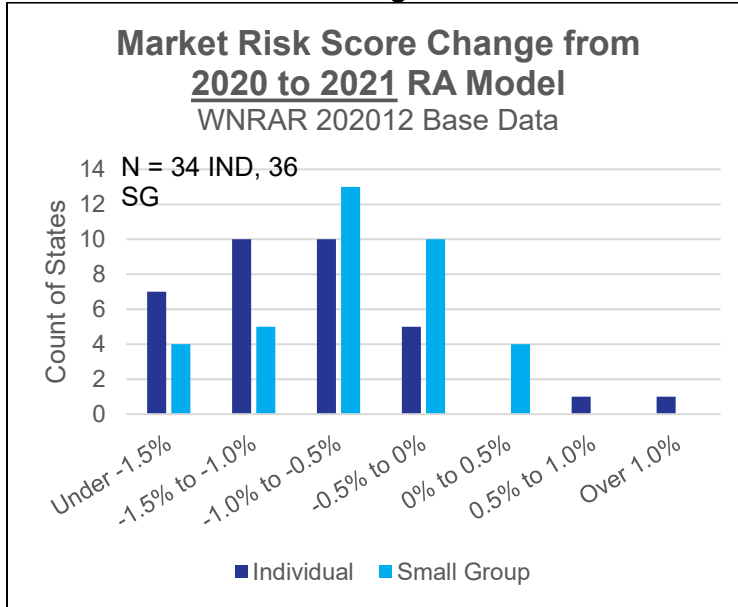
As shown in Table 3, prescription drug imputed HCC (RXC) will be a larger component of total risk in the final 2021 model compared to the 2020 model. For example, RXC increased from 12.8% of total risk score in 2020 to 15.6% of total risk score in 2021 for the individual market. This is consistent with the observation that the 2021 final model is generally moving relative risks away from 1.0. Therefore, issuers with higher RXC prevalence rates (typically risk transfer receivers) will likely see their relative risks and consequently risk transfer receipts increase, while the opposite scenario will hold true for issuers with lower RXC prevalence rates.

As shown in Table 4, medical claims HCC will be a smaller component of total risk while RXC will be a larger component of total risk in the final 2022 model compared to the final 2021 model. Demographic component of risk score is expected to remain consistent. As a result, changes in relative risks for the 2022 risk adjustment model are relatively lower than observed in the 2021 model.

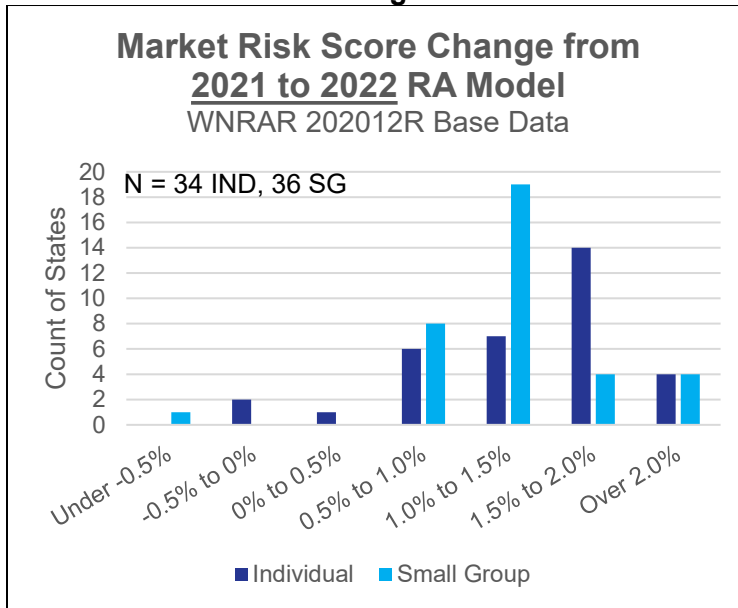
Charts 3 and 4 below show the distribution of average PLRS changes by market from the current 2020 risk adjustment model to the final 2021 risk adjustment model and from the final 2021 model to the final 2022 risk adjustment model. All observed changes in risk scores between years below are due to change in HCC classification and risk score coefficients. Given that we did not make any demographic or

morbidity adjustments to the underlying 2020 data, these risk score changes do not indicate that there is a change in overall morbidity.

**Chart 3: Market Risk Score Change from 2020 to 2021 RA Model**



**Chart 4: Market Risk Score Change from 2021 to 2022 RA Model**



In addition, we also observed that the risk score changes for issuers can be significantly different than market averages. In Tables 5 and 6 below, we show issuer average risk score changes, as well as key metrics by market.<sup>12</sup> While market average risk score decreased from 2020 to 2021 by 1.6% and 1.0% for the individual and small group markets respectively, issuer risk score changes can vary widely. This

<sup>12</sup> Additional illustration of issuer risk score changes by issuer’s market share can be found in Appendix B.

concept similarly applies to the risk score changes from 2021 to 2022 which increased on average by 1.0% and 1.0% for the individual and small group markets respectively. The spread in change of risk scores from issuer to issuer can be quite significant. As shown in Table 5, the spreads in risk score change from 2020 to 2021 between the 90<sup>th</sup> percentile value and the 10<sup>th</sup> percentile value<sup>13</sup> are 4.1% and 2.8% for individual and small group markets respectively. As shown in Table 6, the spreads in risk score change from 2021 to 2022 between the 90<sup>th</sup> percentile and the 10<sup>th</sup> percentile are 2.1% and 1.4% for individual and small group markets respectively.

**Table 5: Issuer Risk Score Change from 2020 to 2021 RA Model**

Metric	Risk Score Change (2021/2020)	
	Individual	Small Group
Average	-1.6%	-1.0%
10 <sup>th</sup> Percentile	-3.7%	-2.9%
25 <sup>th</sup> Percentile	-2.9%	-1.4%
50 <sup>th</sup> Percentile	-1.4%	-0.7%
75 <sup>th</sup> Percentile	-0.7%	-0.2%
90 <sup>th</sup> Percentile	0.4%	-0.1%

**Table 6: Issuer Risk Score Change from 2021 to 2022 RA Model**

Metric	Risk Score Change (2022/2021)	
	Individual	Small Group
Average	1.0%	1.0%
10 <sup>th</sup> Percentile	-0.1%	0.1%
25 <sup>th</sup> Percentile	0.4%	0.7%
50 <sup>th</sup> Percentile	1.1%	1.0%
75 <sup>th</sup> Percentile	1.5%	1.3%
90 <sup>th</sup> Percentile	2.0%	1.5%

Issuers who are current WNRAR participants have received their estimated 2021 and 2022 risk transfer impact in the 202012R WNRAR deliverables. The 2022 results in the 202012R WNRAR deliverables are based on the proposed 2022 model, the findings in this paper are based on the final 2022 model. If you are not a current participant and you are interested in participating in this important project, please contact us at [WNRARSupport@Wakely.com](mailto:WNRARSupport@Wakely.com).

<sup>13</sup> The spread in risk score change between the 90<sup>th</sup> and the 10<sup>th</sup> percentile is calculated by taking the 90<sup>th</sup> percentile value minus the 10<sup>th</sup> percentile value as displayed in the corresponding table



## Disclosures and Limitations

This analysis applied the final 2021 and 2022 risk adjustment model to WNRAR participants' 2020 data with claims incurred and paid through April 2021. Wakely did not make any adjustments or changes to collected data. The underlying market population, data, coding, morbidity and renewal patterns (EDFs) may change, potentially materially, from the time of this analysis through 2022. Furthermore, no adjustments were made for improved risk score optimization efforts such as coding and supplemental claims efforts. We also did not make any adjustments for the COVID-19 crisis.

This paper and the analysis contained herein are based on our interpretation and understanding of CMS's published guidance. Results may vary significantly by issuer and market.

The PLRS changes provided above are inherently uncertain and rely upon data provided by WNRAR participants. We extensively review the data and work with issuers to correct any observed issues but cannot completely guarantee the accuracy of any single issuer's data submission.

Users of this analysis should be qualified to use it and understand the results and its inherent uncertainty. We advise all WNRAR participants to discuss the analysis and appropriateness of application with Wakely before using these estimates.

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Please contact Chia Yi Chin at 720.226.9819 | [chiac@wakely.com](mailto:chiac@wakely.com) or Maris Hayes at 720.531.7030 | [maris.hayes@wakely.com](mailto:maris.hayes@wakely.com) with any questions or to follow up on any of the concepts presented here.

## Appendix A – Payer and Receiver Improve/Deteriorate Transfer Status

### Appendix A-1: Payer and Receiver Improve/Deteriorate Transfer Status (2020 to 2021)

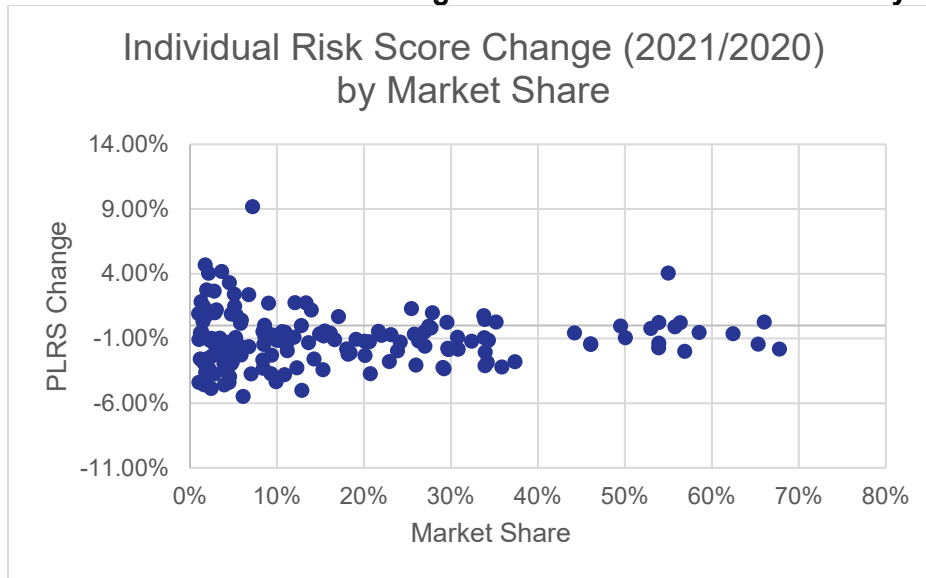
Issuers	Individual		Small Group	
	Improve	Deteriorate	Improve	Deteriorate
Payer	20.7%	79.3%	17.1%	82.9%
Receiver	73.0%	27.0%	65.1%	34.9%

### Appendix A-2: Payer and Receiver Improve/Deteriorate Transfer Status (2021 to 2022)

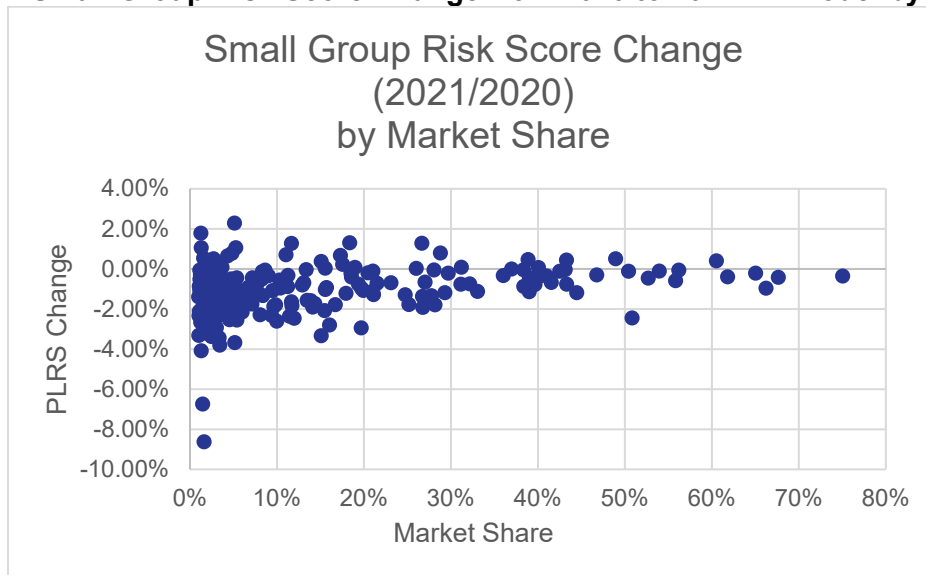
Issuers	Individual		Small Group	
	Improve	Deteriorate	Improve	Deteriorate
Payer	38.2%	61.8%	37.9%	62.1%
Receiver	66.3%	33.7%	51.4%	48.6%

## Appendix B – Risk Score Changes for Issuers by Market Share

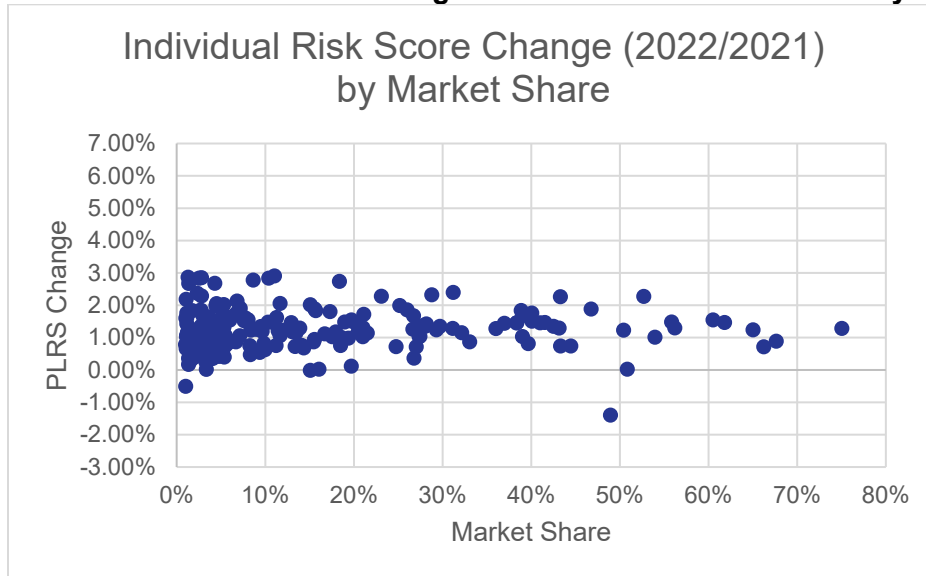
**Appendix B-1: Individual Risk Score Change from 2020 to 2021 RA Model by Market Share**



**Appendix B-2 Small Group Risk Score Change from 2020 to 2021 RA Model by Market Share**



**Appendix B-3: Individual Risk Score Change from 2021 to 2022 RA Model by Market Share**



**Appendix B-4: Small Group Risk Score Change from 2021 to 2022 RA Model by Market Share**

