



**Date: January 20, 2022**

**RE: Reissuing 2018 Benefit Year HHS Risk Adjustment Data Validation (RADV) Results**

The Centers for Medicare & Medicaid Services (CMS) is reissuing 2018 benefit year Department of Health and Human Services Risk Adjustment Data Validation (HHS-RADV) results<sup>1</sup> in response to a successful appeal under 45 C.F.R. § 156.1220(a)(1)(viii), which challenged the calculation of the 2018 benefit year error rates under the HHS-RADV error estimation methodology. Based on the appeal, a difference was observed between the error rate calculation described in the HHS Notice of Benefit and Payment Parameters for 2019 (2019 Payment Notice)<sup>2</sup> and the error rate calculation executed for 2018 benefit year HHS-RADV (as described in the 2018 Benefit Year HHS-RADV Protocols<sup>3</sup>).

Reissuing the 2018 results produced changes to issuers' 2018 benefit year HHS-RADV non-zero error rates and resulted in changes to 2018 benefit year HHS-RADV adjustments to 2019 risk adjustment risk scores and transfers for non-exiting issuers.<sup>4</sup> As a result, the 2018 benefit year HHS-RADV participating issuers that received non-zero error rates (roughly 13 percent of issuers) are expected to see a reduction in the magnitude of their error rates by approximately 24 percent on average. The recalculation of error rates did not change issuers' outlier status, Hierarchical Condition Category (HCC) failure rates, or HCC failure rate groups (see Section 2 for further information).

In tandem with the release of this memo, on January 20, 2022, CMS is also releasing updated issuer-specific 2018 benefit year HHS-RADV results and reports in the Audit Tool, as well as publishing an updated Summary Report,<sup>5</sup> reflecting reissued 2018 benefit year HHS-RADV adjustments to 2019 benefit year risk adjustment transfers for non-exiting issuers. Please note that as described in this report, this report and the reissued results supersede and replace the previously released 2018 benefit year HHS-RADV results, as well as the sections described below from the 2018 Benefit Year HHS-RADV Results Memo released in June 2020.<sup>6</sup>

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<sup>1</sup> The 2018 Benefit Year HHS-RADV Results Memo released on June 12, 2020 (June 2020 BY 2018 HHS-RADV Results Memo) is available at: [https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2018\\_BY\\_RADV\\_Results\\_Memo.pdf](https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2018_BY_RADV_Results_Memo.pdf).

<sup>2</sup> See HHS Notice of Benefit and Payment Parameters for 2019; Final Rule, 83 FR 16930 at 16961 – 16965 (April 17, 2018).

<sup>3</sup> The 2018 Benefit Year HHS-RADV Protocols (2018 HHS-RADV Protocols) is available on REGTAP at: [https://www.regtap.info/uploads/library/HRADV\\_2018Protocols\\_070319\\_RETIRED\\_5CR\\_070519.pdf](https://www.regtap.info/uploads/library/HRADV_2018Protocols_070319_RETIRED_5CR_070519.pdf).

<sup>4</sup> There were no exiting issuers with positive error rates in 2018 benefit year HHS-RADV, in either the original or reissued results. Thus, there will be no adjustments to 2018 benefit year risk adjustment risk scores or transfers as a result of 2018 benefit year HHS-RADV results.

<sup>5</sup> See Updated 2018 Benefit Year HHS-RADV Adjustments to 2019 Benefit Year Risk Adjustment Transfers Summary Report available at: <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs>.

<sup>6</sup> See supra note 1.

This memo contains the following sections:

1. [Overview of the Methodological Realignment with the 2019 Payment Notice for Reissuance of 2018 Benefit Year HHS-RADV Results](#)
2. [Overview of Components Remaining Unchanged in the Methodological Realignment with the 2019 Payment Notice for Reissuance of 2018 Benefit Year HHS-RADV Results](#)
3. [Key Highlights: Comparison of the Reissued 2018 Benefit Year HHS-RADV Results to the Original 2018 Benefit Year HHS-RADV Results](#)
4. [Reissuance of 2018 Benefit Year HHS-RADV Results: Key Metrics and Reports](#)
5. [Impact of Reissued 2018 Benefit Year HHS-RADV Error Rates on Risk Adjustment Transfers](#)
6. [Next Steps](#)
7. Appendices:
  - [Appendix A: National Program Benchmarks – Reissued 2018 Benefit Year HHS-RADV Compared to Original 2018 Benefit Year HHS-RADV](#)
  - [Appendix B: Estimated 2019 Benefit Year RA Market Weighted Average Risk Score Adjustment Factors from Reissued 2018 Benefit Year HHS-RADV Results](#)
  - [Appendix C: Estimated 2018 Benefit Year RA Market Weighted Average Risk Score Adjustment Factors from Reissued 2018 Benefit Year HHS-RADV Results \(Exiting Issuers\)](#)
  - [Appendix D: 2018 Benefit Year HHS-RADV HCC Group Definitions](#)
  - [Appendix E: Comparison of Variable Names Relevant to 2018 HHS-RADV](#)
  - [Appendix F: Separation of an Enrollee’s HCC-Associated and Non-HCC-Associated Risk Score Components for 2018 Benefit Year](#)

## **1. Overview of the Methodological Realignment with the 2019 Payment Notice for Reissuance of 2018 Benefit Year HHS-RADV Results**

For the reissuance of 2018 benefit year HHS-RADV results, CMS realigned the application and calculation of 2018 benefit year error rates with the methodology described in the 2019 Payment Notice. The methodological realignment focuses only on the portions of the enrollee EDGE risk score associated with HCCs to conform with the definition of the variable  $EdgeRS_{i,e}$  in the applicable rulemaking.<sup>7,8</sup> This differs from how CMS calculated error rates for 2018 benefit year HHS-RADV results released in June 2020, which followed the methodology described in the 2018 HHS-RADV Protocols<sup>9</sup> and applied the error rate to the entire enrollee EDGE risk score, including portions of the enrollee EDGE risk score not associated with HCCs.

These revisions impact multiple steps in the error rate calculation. The following subsections describe the changes made to realign the 2018 benefit year HHS-RADV error estimation methodology and the calculation of error rates to conform to the 2019 Payment Notice in response to the aforementioned

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<sup>7</sup> See the 2019 Payment Notice, 83 FR at 16963 – 16964 (the variable  $EdgeRS_{i,e}$  is defined as “the risk score for EDGE HCCs of enrollee  $e$  of issuer  $i$ ”).

<sup>8</sup> The HHS-RADV error estimation methodology applicable beginning with the 2019 benefit year is detailed in the Amendments to the HHS-Operated Risk Adjustment Data Validation Under the Patient Protection and Affordable Care Act’s HHS-Operated Risk Adjustment Program; Final Rule, 85 FR 76979 (December 1, 2020).

<sup>9</sup> Available on REGTAP at:

[https://www.regtap.info/uploads/library/HRADV\\_2018Protocols\\_070319\\_RETIRED\\_SCR\\_070519.pdf](https://www.regtap.info/uploads/library/HRADV_2018Protocols_070319_RETIRED_SCR_070519.pdf)

appeal. In addition, to help clarify the distinctions between the methodologies, the notations for the terms used to describe the applicable methodology in this document have been updated to distinguish between the usage of similar terms with different definitions. A comparison of these notations is displayed in Appendix E.

The realigned methodology, terms, and definitions described in this document replace the steps in the error estimation methodology described in Section 11.3.3 (Calculation of Error Rates to Adjust Issuer Plan Risk Scores) of the 2018 Benefit Year HHS-RADV Protocols.

### 1.1 Realigned Definition of EDGE Risk Score for Reissuance of 2018 Benefit Year HHS-RADV Results

The realigned definition for the EDGE risk score ( $HccEdgeRS_{i,e}$ ) refers to the risk score only from enrollees' HCCs as reported on the issuer's EDGE server, as opposed to the total risk score of the enrollee as reported on the issuer's EDGE server (denoted as  $EdgeRS_{i,e}$  in the 2018 benefit year HHS-RADV Protocols, and referred to as  $TotalEdgeRS_{i,e}$  in this document), which incorporates the non-HCC-associated portion of the risk score, such as CSR factors (if applicable), prescription drug factors (if applicable), demographic factors, and enrollment duration factors (if applicable). As such, under the realigned error rate calculation, enrollees without HCCs<sup>10</sup> have an EDGE risk score value of zero (0), as opposed to a total EDGE risk score value incorporating the applicable CSR, prescription drug, demographic, and enrollment duration factors as implemented in the June 2020 release of 2018 benefit year HHS-RADV results.

The realigned definition of the EDGE risk score impacts the calculation of the enrollee adjusted risk score. The 2018 HHS-RADV Protocols formula for enrollee adjusted risk score<sup>11, 12</sup> was:

$$AdjRS_{i,e} = TotalEdgeRS_{i,e} * (1 - Enrollee Adjustment_{i,e})$$

where:

- $AdjRS_{i,e}$  is the adjusted value of the total risk score for a sampled enrollee  $e$  of issuer  $i$ .
- $EdgeRS_{i,e}$  is the EDGE value of the total risk score for sampled enrollee  $e$  of issuer  $i$  (including non-HCC-associated components of the risk score calculation).
- $Enrollee Adjustment_{i,e}$  is the calculated adjustment factor to adjust sampled enrollee  $e$  of issuer  $i$ 's sample risk score.

For the reissuance of 2018 benefit year HHS-RADV results, CMS recalculated enrollees' adjusted risk scores using only the HCC-associated portion of the EDGE risk score, as noted in the realigned formula noted below:

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<sup>10</sup> In the methodological realignment for the reissuance of 2018 benefit year HHS-RADV results, enrollees with only RXCs have an HCC-associated EDGE risk score value of zero (0) and do not have an impact on the error rate calculation. Infant enrollees without HCCs and the default Maturity-Severity interaction AGE1\_X\_SEVERITY1 also have an HCC-associated EDGE risk score value of zero (0) and do not have an impact on the error rate calculation.

<sup>11</sup> As defined in Section 11.3.3 (Calculation of Error Rates to Adjust Issuer Plan Risk Scores) of the 2018 HHS-RADV Protocols and as calculated in the original 2018 benefit year HHS-RADV results released in June 2020.

<sup>12</sup> In the 2018 HHS-RADV Protocols, the total risk score of the enrollee as reported on the issuer's EDGE server was denoted as  $EdgeRS_{i,e}$ . In this document this variable is referred to as  $TotalEdgeRS_{i,e}$ .

$$HccAdjRS_{i,e} = HccEdgeRS_{i,e} * (1 - Enrollee Adjustment_{i,e})$$

where:

- $HccAdjRS_{i,e}$  is the adjusted value of the HCC-associated portion of the risk score for sampled enrollee  $e$  at issuer  $i$ .
- $HccEdgeRS_{i,e}$  is the EDGE value of the HCC-associated portion of the risk score for sampled enrollee  $e$  of issuer  $i$  (that is, the risk score only from enrollee's HCCs on EDGE).
- $Enrollee Adjustment_{i,e}$  is the calculated adjustment factor to adjust sampled enrollee  $e$  of issuer  $i$ 's sample risk score.<sup>13</sup>

## 1.2 Realigned Error Rate Calculation & Application of Error Rates to Issuers' Plan Liability Risk Scores (PLRS) for Reissuance of 2018 Benefit Year HHS-RADV Results

For the reissuance of 2018 benefit year HHS-RADV results, CMS recalculated the extrapolation of the issuer's error rate using only the HCC-associated EDGE risk score and HCC-associated enrollee adjusted risk score, which includes only enrollees with HCCs and is consistent with the realigned definition for the EDGE risk score.

In the June 2020 release of 2018 benefit year HHS-RADV results, error rates were calculated using the following formula from the 2018 HHS-RADV Protocols,<sup>14,15</sup> which included enrollees without HCCs:

$$ErrorRate_i = 1 - \frac{\sum_e (w_{i,e} * AdjRS_{i,e})}{\sum_e (w_{i,e} * TotalEdgeRS_{i,e})}$$

where:

- $w_{i,e}$  is the stratum weight, calculated as the number of enrollees in enrollee  $e$ 's stratum in the whole population for issuer  $i$ , divided by number of sampled enrollees in enrollee  $e$ 's stratum for issuer  $i$
- $TotalEdgeRS_{i,e}$  is the weighted average across all plans for all enrollment periods of the sum of enrollee  $e$ 's risk adjustment model coefficients for that enrollment period at issuer  $i$  as recorded on EDGE. This value includes all applicable benefit year risk score components, is weighted by the length of the enrollee's enrollment periods, and takes the metal level and CSRs of each enrollment period plan into account. This enrollee-level overall value is provided to CMS from the EDGE server reports directly and is not calculated during the HHS-RADV process.

For the reissuance of 2018 benefit year HHS-RADV results, CMS recalculated issuers' error rates according to the realigned error rate formula noted below, which only included enrollees with HCCs:

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<sup>13</sup> As defined in Section 11.3.3 (Calculation of Error Rates to Adjust Issuer Plan Risk Scores) of the 2018 HHS-RADV Protocols and as calculated in the original 2018 Benefit Year HHS-RADV results released in June 2020, the enrollee adjustment factor ( $Enrollee Adjustment_{i,e}$ ) was calculated as the weighted average of all HCCs' associated Group Adjustment Factor(s), where the weight is assigned as the risk score component contributed by the single HCC. The risk score component contributed by the single HCC only considers an enrollee's HCCs and the metal level of their plan.

<sup>14</sup> See supra note 10.

<sup>15</sup> See supra note 12.

$$HccER_i = 1 - \frac{\sum_e(w_{i,e} * HccAdjRS_{i,e})}{\sum_e(w_{i,e} * HccEdgeRS_{i,e})}$$

Because enrollees without HCCs<sup>16</sup> will have *HccEdgeRS<sub>i,e</sub>* and *HccAdjRS<sub>i,e</sub>* values of zero (0), they will not contribute to the *HccER<sub>i</sub>* value either positively or negatively. This lack of contribution to the *HccER<sub>i</sub>* is equivalent to an exclusion of these enrollees from the *HccER<sub>i</sub>*.

Under the methodological realignment, CMS also recalculated 2018 benefit year HHS-RADV error rates using only the HCC portion of the enrollee-level risk score in the denominator. In the original 2018 HHS-RADV results released in June 2020, CMS used the enrollee’s total EDGE risk score in the denominator, which incorporated the non-HCC-associated portion of the risk score.

As defined above, the *HccER<sub>i</sub>* value for the reissued results describes only the proportion of the HCC-related components of the risk score that are believed to be in error, as reflected by the medical record review. Therefore, before applying the *HccER<sub>i</sub>* to the issuer’s PLRS, the value must be scaled to appropriately reflect the proportion of the total EDGE risk score that would be in error with the *HccER<sub>i</sub>* value applied only to the HCC portion of the PLRS. To accomplish this, CMS calculated an HCC-associated PLRS weight (*HccPLRSweight<sub>i</sub>*) to estimate how much of the total EDGE PLRS is HCC-related in the issuer population based on the issuer’s sample. This calculation is noted below:

$$HccPLRSweight_i = \frac{\sum_e(w_{i,e} * HccEdgeRS_{i,e})}{\sum_e(w_{i,e} * TotalEdgeRS_{i,e})}$$

In contrast to their role in the *HccER<sub>i</sub>* value, enrollees without HCCs will have an impact on the HCC-associated PLRS weight value via their inclusion in the denominator of this calculation. This inclusion reflects their role in the value of the issuer’s total PLRS and is necessary for the appropriate scaling of the *HccER<sub>i</sub>* to apply to the issuer’s total PLRS.

For the reissued results, CMS then calculated a final total error rate (*TotalER<sub>i</sub>*) by multiplying the HCC-associated error rate by the HCC-associated PLRS weight, as noted below:

$$TotalER_i = HccER_i * HccPLRSWeight_i$$

In comparison to the original June 2020 release of 2018 HHS-RADV results, issuers’ reissued final total error rates are smaller in magnitude than the value of the HCC-associated error rate (*HccER<sub>i</sub>*) due to the inclusion of the HCC-associated PLRS weight and the application of the enrollee adjustment to only the HCC-associated portions of the enrollee’s risk score.

For the reissued results, CMS then adjusted issuers’ PLRS by applying the issuer’s total error rate (*TotalER<sub>i</sub>*) to the issuer’s total 2019 PLRS to get the revised adjusted PLRS according to the following formula:

$$AdjPLRS_i = (1 - TotalER_i) * PLRS_i$$

where:

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<sup>16</sup> This includes adult enrollees with only RXCs. In the methodological realignment for the reissued 2018 benefit year HHS-RADV results, enrollees with only RXCs also have an HCC-associated EDGE risk score value of zero (0) and do not have an impact on the error rate calculation.

- $PLRS_i$  is the enrollment-weighted average PLRS for issuer  $i$  when including all risk score components on EDGE

## **2. Overview of Components Remaining Unchanged in the Methodological Realignment with the 2019 Payment Notice for Reissuance of 2018 Benefit Year HHS-RADV Results**

The following components did not change as part of the methodological realignment for the reissuance of 2018 benefit year HHS-RADV results and remain consistent with the original 2018 Benefit Year HHS-RADV Results Memo released on June 12, 2020<sup>17</sup> and the 2018 Benefit Year HHS-RADV Protocols:<sup>18</sup>

- Total number of HHS-RADV participating issuers;
- HCC frequencies and HCC Failure Rate statistics;
- Application of HCC hierarchies and categorization of HCCs into HCC Failure Rate Groups;
- Calculation of Group Failure Rates (GFRs) and Group Adjustment Factors (GAFs);
- Issuer outlier determination and issuer outlier status; and
- Issuer error rate sign (e.g., issuers that had a positive error rate in the original 2018 benefit year HHS-RADV results still have a positive error rate in the reissued 2018 benefit year HHS-RADV results).

In addition, the key findings outlined in the original 2018 Benefit Year HHS-RADV Results Memo remain unchanged for the reissuance of 2018 benefit year HHS-RADV results, including:

- Key Finding #1 (June 2020): An increase in exempt issuers resulted in a significant decrease in the number of issuers participating in 2018 benefit year HHS-RADV in comparison to 2017 benefit year HHS-RADV.<sup>19</sup>
- Key Finding #2 (June 2020): Demographic and Enrollment (D&E) validation improved, but Prescription Drug Category (RXC) claims validation identified areas for improvement.<sup>20</sup>
- Key Finding #3 (June 2020): The highest frequency HCCs in each HCC failure group only changed slightly between the 2017 and 2018 benefit years.<sup>21</sup>
- Key Finding #4 (June 2020): Comparison of 2017 benefit year frequently miscoded HCCs to 2018 benefit year frequently miscoded HCCs shows some similar results.<sup>22</sup>
- Key Finding #5 (June 2020): Issuers' 2018 benefit year HHS-RADV results showed lower mean HCC failure rates across HCC failure rate groups and improved national program metrics in comparison to the 2017 benefit year HHS-RADV results.<sup>23</sup>
- Key Finding #6 (June 2020): Compared with the 2017 benefit year, the 2018 benefit year had an overall lower number of issuers who were outliers, but the proportion of negative outliers is higher.<sup>24, 25</sup>

<sup>17</sup> See supra note 1.

<sup>18</sup> The 2018 HHS-RADV Protocols are available on REGTAP at:

[https://www.regtap.info/uploads/library/HRADV\\_2018Protocols\\_070319\\_RETIRED\\_5CR\\_070519.pdf](https://www.regtap.info/uploads/library/HRADV_2018Protocols_070319_RETIRED_5CR_070519.pdf)

<sup>19</sup> June 2020 BY 2018 HHS-RADV Results Memo, pp. 2-3.

<sup>20</sup> Ibid., pp. 3-4.

<sup>21</sup> Ibid., pp. 4-5.

<sup>22</sup> Ibid., pp. 5-7.

<sup>23</sup> Ibid., p. 7.

<sup>24</sup> Ibid., pp. 7-10

<sup>25</sup> This key finding remains unchanged with regards to the number and proportions of outliers. However, the error rate

- Key Finding #7 (June 2020): Small group market risk pools continue to have more outliers and more adjustments than individual market risk pools as a result of 2018 benefit year HHS-RADV.<sup>26</sup>

### **3. Key Highlights: Comparison of the Reissued 2018 Benefit Year HHS-RADV Results to the Original 2018 Benefit Year HHS-RADV Results**

In this section, CMS provides a high-level summary of the key trends identified in the reissued 2018 benefit year HHS-RADV results and comparisons with the original 2018 benefit year HHS-RADV results.

#### **3.1 Key Finding #1 (January 2022): HCC-associated EDGE risk scores comprise a large percentage of total EDGE risk scores.**

On average, the HCC-associated EDGE risk scores calculated for the reissuance of 2018 benefit year HHS-RADV results comprised a large percentage of the total EDGE risk scores calculated in the original 2018 benefit year HHS-RADV results, with children and infants having 93.9 percent and 94.5 percent respectively of total EDGE risk scores comprised of HCC-associated risk. The largest change was observed among adult enrollees, whose ratio of HCC-associated risk score to total EDGE risk score averaged 75 percent.<sup>27</sup> Table 1 below outlines the differences in total EDGE risk scores and HCC-associated EDGE risk scores for sample enrollees with HCCs between the original and reissued 2018 benefit year HHS-RADV results.

**Table 1. Comparison of 2018 Benefit Year HHS-RADV Total EDGE Risk Score and HCC-Associated EDGE Risk Score Statistics for Enrollees with HCCs in the HHS-RADV Sample**

| Age Group | HCC-Associated EDGE Risk Score to Total EDGE Risk Score Ratio |        |
|-----------|---|--------|
|           | Mean  | Median |
| Adult     | 75.00%  | 87.60% |
| Child     | 93.90%  | 98.60% |
| Infant    | 94.50%  | 99.70% |

Note: This table excludes enrollees without HCCs (which have a zero value for their HCC-associated EDGE risk score) and includes adult enrollees with RXCs only.

#### **3.2 Key Finding #2 (January 2022): Error rate magnitudes decreased from the original 2018 benefit year HHS-RADV results to these reissued 2018 benefit year HHS-RADV results.**

The reissued 2018 benefit year HHS-RADV error rates ( $TotalER_i$ ) were lower than the original 2018 benefit year HHS-RADV error rates ( $ErrorRate_i$ ). This decrease was the result of the inclusion of the HCC-associated PLRS weight and the application of the error rate adjustment to only the HCC-associated portions of the enrollee’s risk score, consistent with the realigned definition for the EDGE risk score. Figure 1 below depicts the distribution of error rates for both the reissued and original 2018 benefit year HHS-RADV results. As shown in Figure 1, the error rate distribution for  $TotalER_i$  in the

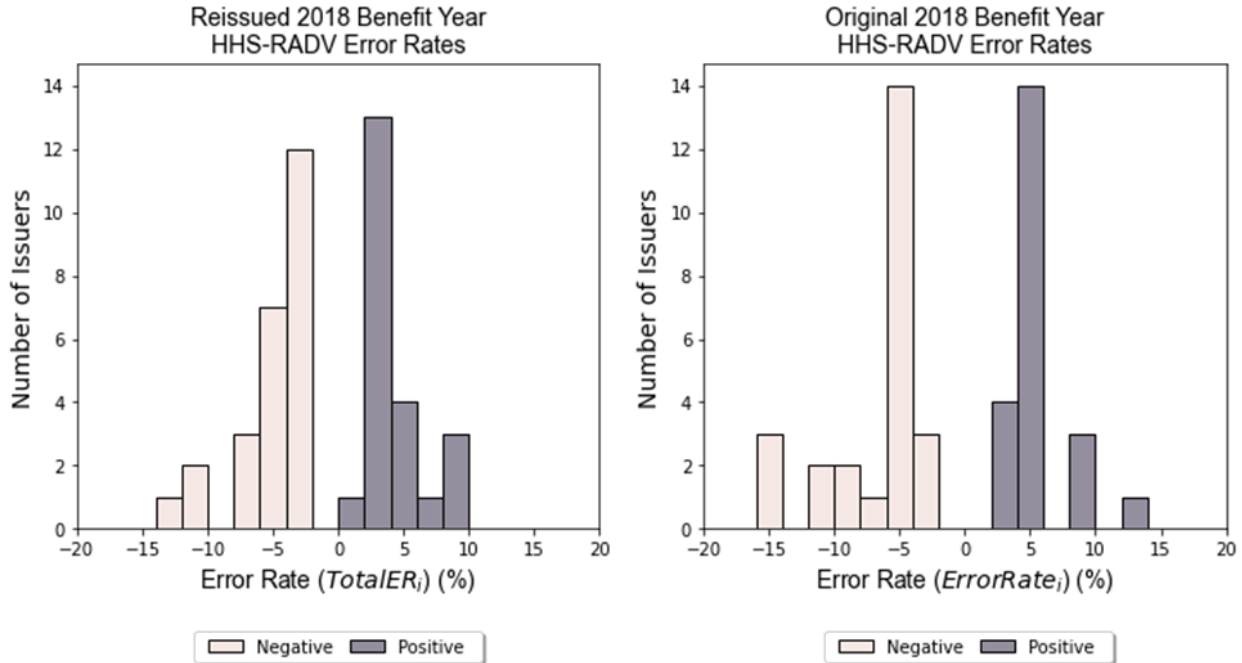
distributions illustrated in Figure 2 (2018 Benefit Year Error Rate Distribution by Error Rate Categories (Among Issuers with Error Rates)) of the June 2020 BY 2018 HHS-RADV Results Memo, which were described in our discussion of Key Finding #6 (June 2020) have changed for the reissued 2018 benefit year HHS-RADV results.

<sup>26</sup> June 2020 BY 2018 HHS-RADV Results Memo, pp. 10-12.

<sup>27</sup> As described in Appendix F, Table F1, the risk score components of the adult models include several non-HCC-associated risk score components that are not included in the child and infant models.

reissued 2018 benefit year HHS-RADV results is closer to zero (0) when compared to the error rate distribution for  $ErrorRate_i$  in the original 2018 benefit year HHS-RADV results.

**Figure 1: 2018 Benefit Year Error Rate Distributions by Error Rate Categories Among Issuers with Error Rates (for the Reissued 2018 Benefit Year HHS-RADV Results and the Original 2018 Benefit Year HHS-RADV Results)**



Note: The number of participating HHS-RADV issuers was unchanged across the original and reissued 2018 benefit year HHS-RADV results (361 total participating issuers, with 47 issuers with non-zero error rates).

**4. Reissuance of 2018 Benefit Year HHS-RADV Results: Key Metrics and Reports**

All issuers that participated in 2018 benefit year HHS-RADV and received non-zero error rates will receive reissued issuer and enrollee metric reports that reflect the error rate results for the reissued 2018 benefit year HHS-RADV results.<sup>28</sup>

This also means that the information in the Summary Report of 2018 Benefit Year HHS-RADV Adjustments to Risk Adjustment Transfers is impacted. CMS therefore also released an updated Summary Report of 2018 Benefit Year HHS-RADV Adjustments to Risk Adjustment Transfers reflecting how these revised results adjust 2019 benefit year risk adjustment transfers in tandem with this memo, on January 20, 2022.<sup>29</sup> All issuers with at least one issuer with a non-zero error rate issuer in their state market risk pool will see changes to their 2018 benefit year HHS-RADV adjustments to 2019 risk adjustment transfers for non-exiting issuers.

The HHS-RADV Audit Tool<sup>30</sup> will provide updated versions of the following documents for the reissued 2018 benefit year HHS-RADV results:<sup>31</sup>

<sup>28</sup> See supra note 4.

<sup>29</sup> Available at <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs>.

<sup>30</sup> The HHS-RADV Audit Tool can be accessed by issuers at: <https://ccrms-rari.force.com/HHSRADVAuditTool/>.

<sup>31</sup> The 2018 Benefit Year HHS-RADV HCC Group Definitions (AppendixD) will not be reissued, as these remain



1. **National Program Benchmarks – Reissued 2018 Benefit Year HHS-RADV Compared to Original 2018 Benefit Year HHS-RADV (Appendix A):** Provides the national program benchmarks for HCC failure rate group means and confidence intervals, and summary statistics based on all issuers’ results used to establish the national HCC failure rate group metrics. For the reissuance of 2018 benefit year HHS-RADV results, the only metrics in the National Program Benchmarks that changed from the original 2018 HHS-RADV results are:
  - Average National Positive Error Rate
  - Average National Negative Error Rate
  - Positive Error Rate (Max)
  - Negative Error Rate (Max)
2. **Estimated 2019 Benefit Year RA Market Weighted Average Risk Score Adjustment Factors from Reissued 2018 Benefit Year HHS-RADV Results (Appendix B):** This appendix is not being reissued as it is not needed for the reissued 2018 benefit year HHS-RADV results. Instead, the adjusted state average risk scores are provided in Appendix C in the “Updated 2018 Benefit Year HHS-RADV Adjustments to 2019 Benefit Year Risk Adjustment Transfers Summary Report,” also published on January 20, 2022.<sup>32</sup>
3. **Estimated 2018 Benefit Year RA Market Weighted Average Risk Score Adjustment Factors from Reissued 2018 Benefit Year HHS-RADV Results (Exiting Issuers) (Appendix C; Unchanged from June 2020 released 2018 HHS-RADV Results):** Consistent with the original 2018 benefit year HHS-RADV results, there were no positive error rate outlier exiting issuers; therefore, there is no impact to 2018 benefit year HHS-RADV risk scores as a result of the reissued 2018 benefit year HHS-RADV results.
4. **Reissued 2018 Benefit Year HHS-RADV Issuer-Specific Metrics Report:** Provides issuer-specific results on each HIOS ID’s HCC group failure rates and error rate. This is available to issuers in the History and Results tab of the Audit Tool. Issuers with more than one HIOS ID will receive separate Issuer HCC Group Metrics Reports for each HIOSID.

For the reissuance of 2018 benefit year HHS-RADV results, the following variables will be included in the reissued Issuer-Specific Metrics Report:

- Total Error Rate ( $TotalER_i$ )
- HCC-Associated Error Rate ( $HccER_i$ )
- HCC PLRS Weight ( $HccPLRSWeight_i$ )
- Weighted Sum of HCC-Associated EDGE Risk Score ( $\sum_e(w_{i,e} * HccEdgeRS_{i,e})$ )

The calculation formulas for the above-listed variables can be found in Section 1.1 and Section 1.2 of this document. Descriptions of these variables may also be found in Appendix E (Comparison of Variable Names Relevant to 2018 HHS-RADV).

5. **Reissued 2018 Benefit Year HHS-RADV Enrollee-Level Metrics Report:** Provides issuer-specific results regarding enrollee-level findings for each HIOS ID’s HHS-RADV

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unchanged from the June 2020 BY 2018 HHS-RADV Results Memo. See [https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2018\\_BY\\_RADV\\_Results\\_Memo.pdf](https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2018_BY_RADV_Results_Memo.pdf).

<sup>32</sup> Available at <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs>.

sampled enrollees' HCCs and applicable adjustments. This is available to issuers in the History and Results tab of the Audit Tool.<sup>33</sup>

For the reissuance of 2018 benefit year HHS-RADV results, the following variables will be included in the reissued Enrollee-Level Metrics Report:

1. HCC-Associated Enrollee Risk Score ( $HccEdgeRS_{i,e}$ ): Enrollee risk scores will be updated to reflect only the HCC-associated portion of the enrollee risk score.
2. Weighted HCC-Associated Enrollee Risk Score ( $w_{i,e} * HccEdgeRS_{i,e}$ ): Enrollees' weighted HCC-associated risk score will be included in the updated report.
3. Weighted Adjusted HCC-Associated Enrollee Risk Score ( $w_{i,e} * HccAdjRS_{i,e}$ ): Enrollee weighted adjusted risk score will be updated to reflect the weighted adjusted HCC-associated portion of enrollee risk score.

The calculation formulas for the above-listed variables can be found in Section 1.1 and Section 1.2 of this document. Descriptions of these variables may also be found in Appendix E (Comparison of Variable Names Relevant to 2018 HHS-RADV).

The Enrollee-Level Metrics Report, along with values in the Issuer-Specific Metrics Report(s), can be used by issuers receiving such reports to calculate the reissued 2018 benefit year HHS-RADV error rate shown in the Reissued 2018 Benefit Year HHS-RADV Issuer Specific Metrics Report. Issuers should note that the HIOS ID's error rate may be a zero or a non-zero rate. CMS will also provide a Reissued 2018 Benefit Year HHS-RADV Results Job Aid to help issuers understand the reissued results based on the methodological realignment and includes definitions for each of the data fields in the results that will be available in the HHS-RADV Audit Tool. The Reissued 2018 Benefit Year HHS-RADV Results Job Aid will include an updated Error Rate Calculation Example addendum that provides step-by-step directions for calculating an issuer's error rate based on the methodological realignment for the reissued 2018 benefit year HHS-RADV results.

IVA Entities will have access to this Memo and the Reissued 2018 Benefit Year HHS-RADV Results Job Aid, but they will not receive issuer-specific results (i.e., documents #4 – #5 in the above list). Issuers may choose to share their issuer-specific results with their IVA Entities. For issuers who did not participate in 2018 benefit year HHS-RADV, documents # 4 – #5 in the above list will not be provided. However, these issuers will have access to this Memo and documents #1 – #3 in the above list.

## **5. Impact of Reissued 2018 Benefit Year HHS-RADV Error Rates on Risk Adjustment Transfers**

All issuers who participated in the risk adjustment program during 2019 benefit year risk adjustment will receive reissued risk adjustment state payment transfer reports that reflect the application of the reissued 2018 benefit year HHS-RADV results. The impact of a risk score total error rate on an issuer's risk adjustment transfers depends on whether the issuer was identified as an outlier and whether additional outliers exist in the state market risk pool. Issuers in a state market risk pool with at least one non-zero error rate issuer resulting in HHS-RADV adjustments under the original 2018 HHS-RADV

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<sup>33</sup> In Section 11.3.3 - Calculation of Error Rates to Adjust Issuer Plan Risk Scores of the 2018 HHS-RADV Protocols, we describe the calculation of issuers' HCC group failure rates and error rates, particularly as those rates apply to newly identified HCCs by the IVA (or SVA as applicable) that are not reflected in the enrollee metrics. The 2018 HHS-RADV Protocols are available at:

[https://www.regtap.info/uploads/library/HRADV\\_2018Protocols\\_070319\\_RETIREED\\_SCR\\_070519.pdf](https://www.regtap.info/uploads/library/HRADV_2018Protocols_070319_RETIREED_SCR_070519.pdf)

results will receive reissued risk adjustment state payment transfer reports and updated HHS-RADV adjustments based on the reissued results. Issuers in a state market risk pool with no non-zero error rate issuers will not have any 2018 benefit year HHS-RADV adjustments to 2019 benefit year risk scores or risk adjustment transfers.<sup>34</sup>

As noted in the June 2020 BY 2018 HHS-RADV Results Memo:

- Exempt Issuers: Exempt issuers will receive a zero error rate.<sup>35</sup>
- Non-Outlier Issuers: Non-outlier issuers will receive a zero error rate.<sup>36</sup>
- Outlier Issuers: Outlier issuers will receive non-zero error rates.<sup>37</sup> These non-zero error rates could be positive or negative.<sup>38</sup>

The application of the reissued 2018 benefit year HHS-RADV error rates to outlier issuers' risk scores affects the state average risk score for a state market risk pool, which in turn affects other issuers' risk adjustment transfer calculations in that state market risk pool, even if those issuers had a zero error rate for 2018 benefit year HHS-RADV. This includes new issuers entering a state market risk pool in 2019 in which outlier issuers were identified in 2018 benefit year HHS-RADV. As a result, exempt issuers, non-outlier issuers, and new market entrants will receive adjustments to their 2019 benefit year risk adjustment transfers due to any non-zero 2018 benefit year error rates from other issuers in their state market risk pools.

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<sup>34</sup> There will be no adjustments to 2018 benefit year risk adjustment risk scores or transfers as a result of 2018 benefit year HHS-RADV results because there were no exiting issuers with positive error rates in the 2018 benefit year of HHS-RADV, in either the original or reissued results.

<sup>35</sup> These issuers did not participate in HHS-RADV and will not have adjustments made to their respective plan liability risk scores. Due to the budget neutral nature of the HHS-operated risk adjustment program, exempt issuers' transfer amounts may change if other issuers in the same state market risk pool are identified as outliers.

<sup>36</sup> The majority of participating issuers' 2018 HHS-RADV results are within the confidence intervals of the national HCC group failure rates. Furthermore, as stated in Section 3 of this memo, issuers' group failure rates and the national failure rate metrics were not impacted by the methodological realignment with the 2019 Payment Notice for reissuance of 2018 Benefit Year HHS-RADV Results. As non-outliers, these issuers will not have adjustments made to their respective plan liability risk scores. Due to the budget neutral nature of the HHS-operated risk adjustment program, these issuers' transfer amounts may change if other issuers in the state market risk pool are identified as outliers.

<sup>37</sup> Issuers with failure rates that lie outside of one or more of the confidence intervals of the national failure rates groups are considered outliers.

<sup>38</sup> If the total error rate is positive, the issuer's plan liability risk scores are adjusted downward by the total error rate. Assuming no adjustments to other issuers' risk scores in the same state market risk pool, this would result in a higher 2019 benefit year risk adjustment charge or lower risk adjustment payment, or shift the transfer amount from a payment to a charge. If the total error rate is negative, the issuer's plan liability risk scores are adjusted upwards by the total error rate. Again, assuming no adjustments to other issuers' risk scores in the same state market risk pool, this would result in a lower 2019 benefit year risk adjustment charge or higher risk adjustment payment, or shift the transfer amount from a charge to a payment.

## **6. Next Steps**

Based on these reissued 2018 benefit year HHS-RADV results, issuers in state market risk pools with non-zero error rates will see these risk score adjustments applied to 2019 benefit year risk adjustment transfers<sup>39</sup> in a separate report being released in tandem with this memo, on January 20, 2022.<sup>40</sup>

### **6.1 Reissued 2018 Benefit Year Error Rate Calculation Attestation and Discrepancy Reporting Process**

CMS will follow the discrepancy reporting and appeals processes established in 45 C.F.R. §§ 153.630(d)(2) and (3) to provide issuers that participated in 2018 benefit year HHS-RADV with the opportunity to dispute their reissued 2018 benefit year HHS-RADV risk score error rate calculation. As such, issuers who participated in 2018 benefit year HHS-RADV must attest to these reissued error rate calculation results, or qualify the attestation by filing a discrepancy report. **Issuers have thirty (30) calendar days from the date of this report, to attest to the updated risk score error rates or qualify that attestation by filing a discrepancy.** Issuers are only permitted to file a risk score error rate discrepancy related to the changes between the original 2018 HHS-RADV results, released on June 12, 2020 and the reissued 2018 HHS-RADV results, released on January 20, 2022. Concurrently with this attestation and discrepancy reporting window, CMS has opened a thirty (30)-calendar day reconsideration window in which an issuer can request reconsideration to contest a processing error by HHS, HHS's incorrect application of the relevant methodology, or HHS's mathematical error with respect to the calculation of a risk score error rate.

Issuers must complete the Reissued 2018 HHS-RADV Error Rate Attestation and Discrepancy Form and the Reissued 2018 HHS-RADV Adjustments to RA Transfers Request for Reconsideration Form in the HHS-RADV Audit Tool. A separate communication will be distributed to issuers that participated in 2018 benefit year HHS-RADV with instructions for accessing the reissued results and completing the Reissued 2018 HHS-RADV Error Rate Attestation and Discrepancy and Reissued 2018 HHS-RADV Adjustments to RA Transfers Request for Reconsideration Forms.

Issuers are encouraged to review their results and contact CMS with any questions at: [CCIIOACARADatavalidation@cms.hhs.gov](mailto:CCIIOACARADatavalidation@cms.hhs.gov).

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<sup>39</sup> See supra note 4.

<sup>40</sup> Available at <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs>.

**Appendix A: National Program Benchmarks – Reissued 2018 Benefit Year HHS-RADV Compared to Original 2018 Benefit Year HHS-RADV**

As detailed in the below chart, for the reissued 2018 benefit year HHS-RADV results, only the following metrics in the National Program Benchmarks changed: (1) Average National Positive (Total) Error Rate, (2) Average National Negative (Total) Error Rate, (3) Positive (Total) Error Rate (Max), and (4) Negative (Total) Error Rate (Max).

| Data Element   | Reissued 2018 Benefit Year Value | Original 2018 Benefit Year Value |
|--|----------------------------------|----------------------------------|
| <b>Low Failure Rate Group Detail</b>                 |                                  |                                  |
| HCC Failure Rate Group Detail                        | Low HCC Group                    | Low HCC Group                    |
| HCC Failure Rate Group Lower Threshold               | -0.139587447                     | -0.139587447                     |
| HCC Failure Rate Group Upper Threshold               | 0.207022041                      | 0.207022041                      |
| HCC Failure Rate Group Weighted Avg Failure Rate     | 0.033717297                      | 0.033717297                      |
| <b>Medium Failure Rate Group Detail</b>              |                                  |                                  |
| HCC Failure Rate Group Detail                        | Medium HCC Group                 | Medium HCC Group                 |
| HCC Failure Rate Group Failure Lower Threshold       | -0.049037741                     | -0.049037741                     |
| HCC Failure Rate Group Failure Upper Threshold       | 0.288724988                      | 0.288724988                      |
| HCC Failure Rate Group Weighted Avg Failure Rate     | 0.119843623                      | 0.119843623                      |
| <b>High Failure Rate Group Detail</b>                |                                  |                                  |
| HCC Failure Rate Group Detail                        | High HCC Group                   | High HCC Group                   |
| HCC Failure Rate Group Failure Lower Threshold       | 0.046116874                      | 0.046116874                      |
| HCC Failure Rate Group Failure Upper Threshold       | 0.406234042                      | 0.406234042                      |
| HCC Failure Rate Group Weighted Avg Failure Rate     | 0.226175458                      | 0.226175458                      |
| <b>Error Rate Summary Statistics</b>                 |                                  |                                  |
| HIOS ID Count  | 361                              | 361                              |
| Total # Issuers Receiving an Error Rate (+ or -)     | 47                               | 47                               |
| Percentage of Issuers with Error Rate                | 13.019390581%                    | 13.019390581%                    |
| Number of Outliers In All HCC Failure Rate Groups    | 57                               | 57                               |
| Count of Issuers with Final Negative Error Rate      | 25                               | 25                               |
| Percentage of Issuers with Final Negative Error Rate | 6.925207756%                     | 6.925207756%                     |
| Average National Negative (Total) Error Rate ♦       | -0.050285023                     | -0.069201952                     |
| Count of Issuers with Final Positive Error Rate      | 22                               | 22                               |
| Percentage of Issuers with Final Positive Error Rate | 6.094182825%                     | 6.094182825%                     |
| Average National Positive (Total) Error Rate ♦       | 0.04312903                       | 0.054302594                      |
| Negative (Total) Error Rate (Max) ♦                  | -0.123145011                     | -0.153033707                     |
| Positive (Total) Error Rate (Max) ♦                  | 0.091929835                      | 0.122174200                      |

Note: ♦ Value changed from the June 2020 BY 2018 HHS-RADV Results Memo.

**Appendix B: Estimated 2019 Benefit Year RA Market Weighted Average Risk Score Adjustment Factors from Reissued 2018 Benefit Year HHS-RADV Results**

Please see Appendix C of the “Updated 2018 Benefit Year HHS-RADV Adjustments to 2019 Benefit Year Risk Adjustment Transfers Summary Report,” published on January 20, 2022,<sup>41</sup> for adjusted state average risk scores.

**Appendix C: Estimated 2018 Benefit Year RA Market Weighted Average Risk Score Adjustment Factors from Reissued 2018 Benefit Year HHS-RADV Results (Exiting Issuers)**

As described above, because no exiting issuers had 2018 benefit year HHS-RADV positive error rates, no adjustments will be made to 2018 benefit year risk scores or transfers based on the reissued 2018 benefit year HHS-RADV results.

**Appendix D: 2018 Benefit Year HHS-RADV HCC Group Definitions**

Appendix D provides the list of HCCs and the HCC Group Level classification for the 2018 benefit year HHS-RADV. The 2018 Benefit Year HHS-RADV HCC Group Definitions (Appendix D) will not be reissued as these remain unchanged from the June 2020 BY 2018 HHS-RADV Results Memo.<sup>42</sup>

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<sup>41</sup> Available at <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs>.

<sup>42</sup> [https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2018\\_BY\\_RADV\\_Results\\_Memo.pdf](https://www.cms.gov/CCIIO/Programs-and-Initiatives/Premium-Stabilization-Programs/Downloads/2018_BY_RADV_Results_Memo.pdf)

## Appendix E: Comparison of Variable Names Relevant to 2018 HHS-RADV

| 2019 Payment Notice <sup>43</sup> | This Document       | Description  |
|-----------------------------------|---------------------|--|
| $EdgeRS_{i,e}$                    | $HccEdgeRS_{i,e}$   | <p>As defined in the 2019 Payment Notice: “the risk score for EDGE HCCs of enrollee <math>e</math> of issuer <math>i</math>”.</p> <p>In this document, the variable name was changed and the value was modified. More specifically, the risk score for EDGE HCCs is expressed as <math>HccEdgeRS_{i,e}</math> and is defined as the weighted average across all plans for all enrollment periods of the sum of enrollee <math>e</math>'s HCC coefficients as determined by the enrollee's risk adjustment model for that enrollment period at issuer <math>i</math>, as recorded on EDGE. This value includes only HCC coefficients from the enrollee's risk adjustment model(s), is weighted by the length of the enrollee's enrollment periods, and takes the applicable metal level and CSRs (if any) of each enrollment period plan into account (See Appendix F, Table F2 for a calculation of this value).</p> |
| $AdjRS_{i,e}$                     | $HccAdjRS_{i,e}$    | <p>As defined in the 2019 Payment Notice: “the adjusted risk score for sampled enrollee <math>e</math> of issuer <math>i</math>.”</p> <p>In this document, this variable name was changed and the value modified to refer to the <math>HccEdgeRS_{i,e}</math> value after enrollee-level adjustments have been applied rather than <math>TotalEdgeRS_{i,e}</math>.</p>   |
| $ErrorRate_i$                     | $HccER_i$           | <p>As defined in the 2019 Payment Notice: “the final error rate for issuer <math>i</math> based on the sampled enrollees.”</p> <p>In this document, this variable name was changed and the value modified such that it is calculated based on <math>HccEdgeRS_{i,e}</math> rather than <math>TotalEdgeRS_{i,e}</math>.</p>   |
| N/A                               | $TotalEdgeRS_{i,e}$ | <p>This variable has a new notation unique to this document.<sup>44</sup></p> <p>It expresses the value for the total EDGE risk score, defined as the weighted average across all plans for all enrollment periods of the sum of enrollee <math>e</math>'s risk adjustment model coefficients for that enrollment period at issuer <math>i</math> as recorded on EDGE. This value includes all applicable benefit year risk score components, is weighted by the length of the enrollee's enrollment periods, and takes the metal level and CSRs of each enrollment period plan into account.</p> <p><i>Note:</i> This value is provided to CMS from the EDGE server reports and is not calculated by CMS.</p>   |
| N/A                               | $TotalER_i$         | <p>This is a new variable unique to this document.</p> <p>It expresses the value of <math>HccER_i</math> after scaling this value such that it only applies to the HCC portion of the issuer's PLRS.</p>   |

<sup>43</sup> See 83 FR at 16961 - 16965.

<sup>44</sup> See supra note 12.

## **Appendix F: Separation of an Enrollee’s HCC-Associated and Non-HCC-Associated Risk Score Components for 2018 Benefit Year**

For the reissued 2018 benefit year HHS-RADV results, an enrollee’s total EDGE risk score (*TotalEdgeRS<sub>i,e</sub>* in this document) had to be separated into its component parts. Those component parts vary by risk adjustment model (i.e., adult, child and infant).

Table F1 describes the components of the *TotalEdgeRS<sub>i,e</sub>* by risk adjustment model.<sup>45</sup> The variables in Table F1 are expressed at the enrollment period level. It should be noted that the indicators for demographics, medical conditions, and prescription drugs an enrollee has recorded on EDGE do not differ between enrollment periods, but that the coefficients of those indicators may differ between enrollment periods if the enrollee’s plans are of different metal levels for different enrollment periods. Therefore, the values described in Table F1 may vary by enrollment period.

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<sup>45</sup> See supra note 12.



**Table F1. Comparison of Risk Score Components by Risk Adjustment Model for 2018 HHS-RADV**

| Risk Score Component                                   | Description  | Model Inclusion | 2018 Reissued             |                                       | 2018 Original           |                                       |
|--|--|-----------------|---------------------------|---------------------------------------|-------------------------|---------------------------------------|
|  |  |                 | Used to determine GAF [1] | Subsequently Adjusted during HHS-RADV | Used to determine GAF   | Subsequently Adjusted during HHS-RADV |
| <b>DemoRS</b> <sub><i>i,e,p</i></sub>                  | The EDGE value of the demographic-associated (age and sex) portion of the risk score for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> .   | All [2]         | No                        | No                                    | No                      | Yes                                   |
| $\sum_h$ <b>HccEdgeRS</b> <sub><i>i,e,p,h</i></sub>    | The sum of coefficients associated with any HCC factors identified from an enrollee's EDGE record.<br><br>The coefficient is the EDGE value of the HCC-associated risk score component <i>h</i> for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> (that is, the risk score from enrollee's individual HCCs and HCC risk coefficient groups on EDGE only).  | Adult, Child    | Yes                       | Yes                                   | Yes                     | Yes                                   |
| <b>SevXHccRS</b> <sub><i>i,e,p</i></sub>               | The coefficient associated with a severity-HCC interaction factor, if applicable, as derived from HCC factors identified from an enrollee's EDGE record.<br><br>The coefficient is the EDGE value of the severity illness interaction group triggered by HCC interactions for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> .  | Adult           | No                        | No                                    | No                      | Yes                                   |
| $\sum_r$ <b>RxcEdgeRS</b> <sub><i>i,e,p,r</i></sub>    | The sum of coefficients associated with any RXCs identified from an enrollee's EDGE record.<br><br>The coefficient is the EDGE value of the RXC-associated risk score component <i>r</i> for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> (that is, the risk score from enrollee's individual RXCs on EDGE only).   | Adult           | No                        | No                                    | No                      | Yes                                   |
| $\sum_{rh}$ <b>RxcHccRS</b> <sub><i>i,e,p,rh</i></sub> | The sum of coefficients associated with RXC-HCC interactions, derived from HCC and RXC factors identified from an enrollee's EDGE record.<br><br>The coefficient is the risk score component of RXC interaction triggered by the HCC and RXC interaction <i>rh</i> for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> .   | Adult           | No                        | No                                    | No                      | Yes                                   |
| <b>EnDurRS</b> <sub><i>i,e,p</i></sub>                 | The coefficient associated with the number of months an enrollee is enrolled in a plan.<br><br>The coefficient is the EDGE value of the enrollment duration-associated portion of the risk score for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> .   | Adult           | No                        | No                                    | No                      | Yes                                   |
| <b>CSRFactor</b> <sub><i>i,e,p</i></sub>               | The Cost-Sharing Reduction (CSR) Factor for plan metal level of sampled enrollee <i>e</i> of issuer <i>i</i> to account for increased costs of cost-sharing reduction plan variations,[3] assigned according to the plan in which an individual is enrolled for enrollment period <i>p</i>   | All             | No                        | Not applicable [5]                    | No                      | Not applicable [5]                    |
| <b>SevXMaturity</b> <sub><i>i,e,p</i></sub>            | The coefficient associated with the combination of the severity of an infant's HCCs and the maturity of the infant, derived from age and HCCs identified in an enrollee's EDGE record.<br><br>The coefficient is the Maturity-Severity interaction portion of the risk score for enrollment period <i>p</i> for sampled enrollee <i>e</i> of issuer <i>i</i> (infants only).<br><br>The Maturity-Severity interaction for infants without HCCs are defaulted as AGE1_X_SEVERITY 1. As such, for these enrollees, this factor is not considered to be triggered by the enrollee's HCCs. However, other infants with HCCs may receive this factor due to their HCCs falling under the Severity 1 designation. The factor value for AGE1_X_SEVERITY 1 infants with HCCs would be considered to be triggered by the enrollee's HCCs. | Infant [4]      | Yes, as individual HCCs   | Yes, with some additional steps [4]   | Yes, as individual HCCs | Yes, with some additional steps [4]   |

- Notes:
- (1) GAF refers to the Group Adjustment Factor.
  - (2) In the infant model, these factors include only the Male Age 0 and Male Age 1 factors.
  - (3) See 81 FR at 94098.
  - (4) For 2018 HHS-RADV, adjustments to infant sample enrollees' risk scores are made based on the HCCs present in the medical record (as for enrollees subject to the adult or child models), with additional calculation steps to account for the differences in the nature of the adult and child models (which are additive models) and the infant models (which are categorical models). See Step 5 in Section 11.3.4 of the 2018 HHS-RADV Protocols, available at: [https://www.regtap.info/uploads/library/HRADV\\_2018Protocols\\_070319\\_RETIREED\\_SCR\\_070519.pdf](https://www.regtap.info/uploads/library/HRADV_2018Protocols_070319_RETIREED_SCR_070519.pdf).
  - (5) CSR factors in risk adjustment operate differently in the calculation of a risk score than other components of the risk score. They are a multiplier applied to the entire risk score. Therefore, CSRs are neither an HCC-associated, nor a non-HCC-associated component of the enrollee-level EDGE risk score. They modify all components, rather than serving as a component themselves.

Using the information in Table F1, we can define the applicable set of HCC-associated components of the total EDGE score ( $TotalEdgeRS_{i,e}$ ).<sup>46</sup> Then, we can calculate the HCC-associated risk score ( $HccEdgeRS_{i,e}$ ), with the components differing by risk adjustment model, as described in Table F2:

**Table F2. 2018 Benefit Year HHS-RADV Calculation of the HCC-Associated Risk Score**

| Model      | HCC-Associated Risk Score Components [1]   |
|------------|--|
| Adult      | $HccEdgeRS_{i,e} = \frac{\sum_p(days_{i,e,p} * \sum_h HccEdgeRS_{i,e,p,h} * CSR_{i,e,p})}{\sum_p(days_{i,e,p})}$ |
| Child      | $HccEdgeRS_{i,e} = \frac{\sum_p(days_{i,e,p} * \sum_h HccEdgeRS_{i,e,p,h} * CSR_{i,e,p})}{\sum_p(days_{i,e,p})}$ |
| Infant [2] | $HccEdgeRS_{i,e} = \frac{\sum_p(days_{i,e,p} * SevXMaturity_{i,e,p} * CSR_{i,e,p})}{\sum_p(days_{i,e,p})}$       |

Notes: (1) In calculating  $HccEdgeRS_{i,e}$ ,  $days_{i,e,p}$  is the number of days in enrollment period  $p$  for enrollee  $e$  at issuer  $i$ . This calculation is consistent with how multiple enrollment periods are aggregated on issuer’s EDGE servers.  
(2) In the infant model, the Severity-Maturity interaction “AGE1\_X\_MATURITY1” is accounted as HCC-associated risk score components only for infants with HCCs. The default Severity-Maturity interaction for infants without HCCs does not contribute to  $HccEdgeRS_{i,e}$ , consistent with the treatment of adults and children without HCCs.

<sup>46</sup> See supra note 12.