DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
Center for Consumer Information and Insurance Oversight
200 Independence Avenue SW
Washington, DC 20201

Date: May 31, 2019

RE: 2017 Benefit Year HHS Risk Adjustment Data Validation Results

The Centers for Medicare & Medicaid Services (CMS) is making available summary information on issuers' 2017 benefit year HHS risk adjustment data validation (HHS-RADV) results.[1] The 2017 benefit year HHS-RADV results will be used to adjust 2018 benefit year risk adjustment plan liability risk scores, resulting in an adjustment to 2018 benefit year risk adjustment transfer amounts.[2] This memo focuses solely on the results of 2017 benefit year HHS-RADV, and contains an overview of the HHS-RADV error rate methodology, a summary of the 2017 benefit year HHS-RADV results, and information to assist issuers in understanding their results.[3] On August 1, 2019, CMS anticipates releasing a report reflecting how these results will adjust 2018 benefit year risk adjustment transfers.[4] These adjustment amounts will be collected and distributed in the 2021 benefit year and issuers will be required to report these adjustments as part of their respective 2021 benefit year medical loss ratios. In addition, we have issued guidance as part of the federal rate filing instructions to provide states and issuers flexibility in terms of when these amounts will be considered for rate setting purposes.

<u>Overview of the 2017 Benefit Year HHS-RADV Error Estimation Methodology</u>

The 2017 benefit year HHS-RADV results utilize the Hierarchical Condition Category (HCC) group failure rate approach to error estimation finalized in the HHS Notice of Benefit and Payment Parameters for 2019.[5] Under this approach, CMS first groups all HCCs into three failure rate groups (low, medium, and high) based on each HCC's failure rate as determined from the results of all issuers' initial validation audit (IVA) results (or second validation audit (SVA) results if there was insufficient pairwise means agreement between the issuer's SVA and IVA results). Next, CMS determines the weighted mean failure rate and a confidence interval for each of the three HCC groups across all issuers to assess each issuer's performance relative to the total population of issuers

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[1] CMS conducted two (2) pilot years for HHS-RADV for the 2015 and 2016 benefit years. As pilot years, the results were not applied to risk scores and risk adjustment transfers were not adjusted based on the 2015 and 2016 benefit year HHS-RADV results.

[2] The one exception is for issuers who exited all markets in the state for the 2018 benefit year. For these issuers, their 2017 HHS-RADV results will apply to their respective 2017 benefit year plan liability risk scores and risk adjustment transfer amounts.

[3] Issuers who participated in 2017 benefit year HHS-RADV will also receive issuer-specific and enrollee-specific results in the Audit Tool at the same time this memo is released.

[4] For exiting issuers, their 2017 benefit year transfers will be adjusted. See *supra* note 2.

[5] Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2019, Final Rule; (2019 Payment Notice); 83 FR 16930 at 16961 – 16965 (April 17, 2018).

participating in 2017 benefit year HHS-RADV.[6] CMS compares these national HCC group mean failure rates and confidence intervals against each issuer's HCC group failure rates to determine whether the issuer's results are outside the confidence intervals for an HCC group. We use a 1.96 standard deviation cutoff, for a 95 percent confidence interval, to identify outliers. An issuer's HCC group failure rate that is outside of the confidence interval for an HCC group results in an adjustment to the IVA-sampled enrollees' risk scores with those HCCs (or the SVA-sampled enrollees' risk scores with those HCCs if there was insufficient pairwise means agreement).[7] These adjustments to affected enrollees' risk scores contribute to the development of the issuer's risk score error rate, which is ultimately applied to the issuer's plan liability risk scores, resulting in adjustments to transfers.

Highlights of the 2017 Benefit Year HHS-RADV Results[8]

In this section, CMS provides a high level summary of the major trends identified in the 2017 benefit year HHS-RADV results. Detailed reports containing information related to issuer and enrollee metrics will be made available to issuers in the Audit Tool, as noted in the following section.

Key Finding #1: The number of issuers participating in 2017 benefit year HHS-RADV significantly increased.

A total of 595 out of 628 issuers of risk adjustment covered plans participated in 2017 benefit year HHS-RADV, which means that the 2017 benefit year HHS-RADV has approximately a 95 percent issuer participation rate. A total of 33 issuers of risk adjustment covered plans did not participate in 2017 benefit year HHS-RADV because they: (1) were exempt for having 500 or fewer billable member months statewide; (2) elected to receive a default data validation charge (DDVC); or (3) qualified for the liquidation exemption.[9] This level of participation reflects a 43 percent increase over 2016 benefit year HHS-RADV, in which 416 issuers of risk adjustment covered plans participated. A key reason for this increase is that all issuers of risk adjustment covered plans that did not have 500 or fewer billable member months or were not in liquidation were required to participate in 2017 benefit year HHS-RADV. Given that CMS instituted a second pilot year for 2016 benefit year HHS-RADV, CMS exempted from the 2016 benefit year HHS-RADV pilot small issuers with total premiums of $15 million or less and did not enforce participation in 2016 benefit year HHS-RADV for issuers that are not

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[6] As detailed further below, 2017 HHS-RADV is a pilot year for Massachusetts issuers. Therefore, these issuers' 2017 benefit year HHS-RADV results were not included in the program benchmark metrics.

[7] When an issuer is identified as an outlier, CMS will reduce (or increase) each of the sample enrollees' HCC coefficients by the difference between the outlier issuer's failure rate for the HCC group and the weighted mean failure rate for the HCC group. The shorthand "positive error rate outlier" captures those issuers whose HCC coefficients are reduced as a result of being identified as an outlier; while "negative error rate outlier" captures those issuers whose HCC coefficients are increased as result of being identified as an outlier.

[8] While the 2016 benefit year was a pilot year, issuers were provided illustrative 2016 benefit year HHS-RADV results based on the application of the error rate methodology. As discussed on Page 6 of this memo, we modified the 2016 benefit year HHS-RADV results because there were significant concerns with some issuers' results. These 2016 benefit year HHS-RADV results were not applied to adjust plan liability risk scores or risk adjustment transfers. The 2016 benefit year HHS-RADV results memo was made available for issuers in the HHS-RADV Audit Tool. We use those results in this memo as a comparison point for evaluating early trends in HHS-RADV.

[9] See HHS Notice of Benefit and Payment Parameters for 2020 Final Rule (2020 Payment Notice), 84 FR 17454 at 17508 – 17511 (April 25, 2019).

offering coverage in the 2017 benefit year.[10] In addition, the 2017 benefit year was the first year that HHS operated the risk adjustment program in all 50 states and the District of Columbia.

Massachusetts issuers[11] were not able to participate in previous HHS-RADV pilot years because prior to the 2017 benefit year Massachusetts operated a state-based risk adjustment program. As a result, the 2017 benefit year was the first year for Massachusetts issuers to participate in the HHS-operated risk adjustment program, including HHS-RADV. Therefore, CMS finalized in the 2020 Payment Notice that the 2017 benefit year HHS-RADV would be a pilot year for Massachusetts issuers.[12] This resulted in the exclusion of 15 issuers (HIOS IDs) from the program benchmark metrics used to determine the HCC failure rate groups, means, and confidence intervals, bringing the total count of issuers included in HHS-RADV results down from 595 to 580.[13] All key findings, figures, and tables depicted within this document, aside from "Table 1: High Variance HCCs with Associated Coding Clinic Guidance" and the numbers in the below paragraph on exiting issuers, do not include Massachusetts issuer results for the 2017 benefit year.

The 2017 benefit year HHS-RADV results also include a number of issuers who exited all of the markets in a state for the 2018 benefit year (exiting issuers). Eighty-six out of the 595 issuers that participated in the 2017 benefit year HHS-RADV were exiting issuers. Because one of these exiting issuers is a Massachusetts issuer, HHS-RADV results for 85 issuers that exited all markets in a state for the 2018 benefit year will be used to modify these issuers' 2017 benefit year risk scores and risk adjustment transfers rather than the 2018 benefit year risk scores and risk adjustment transfers.[14]

Key Finding #2: Issuers' documentation for HHS-RADV improved for the 2017 benefit year.
For the 2017 benefit year HHS-RADV, issuers substantially improved the retrieval and submission of adequate medical record documentation for substantiating HCCs compared to the 2016 benefit year HHS-RADV. For the 2016 benefit year, many issuers did not submit sufficient inpatient medical records, or submitted irrelevant medical records that did not substantiate the sampled enrollees' HCCs. In conducting the SVA, CMS noticed that issuers were more successful in obtaining documentation to substantiate HCCs for the 2017 benefit year HHS-RADV. In future years, we hope to provide additional insight on best practices regarding issuers' documentation to help issuers identify further areas for improvement.

Additionally, issuers made improvements in validating demographic and enrollment (D&E) data

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[10] See the May 3, 2017 "2016 Benefit Year HHS Risk Adjustment Data Validation (HHS-RADV) Requirements" memo available at: https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/HHS-Operated-Risk-Adjustment-Data-Validation-HHS-RADV-%E2%80%93-2016-Benefit-Year-Implementation-and-Enforcement.pdf.

[11] Participation in the HHS-operated risk adjustment program is based on Health Insurance Oversight System Identifications (HIOS IDs) and not parent companies. Therefore, while some Massachusetts issuers' parent companies may have participated in the HHS-operated risk adjustment program in other states under other issuer HIOS IDs, no Massachusetts issuer HIOS IDs previously participated in the HHS-operated risk adjustment program, including the pilot years of HHS-RADV.

[12] See the 2020 Payment Notice, 84 FR at 17508.

[13] Issuer count is determined by the number of HIOS IDs. Generally, issuers have one HIOS ID per state.

[14] For the 2017 benefit year HHS-RADV, exiting issuers found to have a non-zero risk score error rate (i.e., that are identified as an outlier) will result in adjustments to 2017 benefit year risk scores and risk adjustment transfers. For the 2018 benefit years HHS-RADV and beyond, only those exiting issuers who are identified as having a positive risk score error rate outlier will be adjusted. See the 2020 Payment Notice, 84 FR at 17503.

elements. In the 2017 benefit year, CMS identified some issuers whose audit data deviated from EDGE data in one or more D&E data elements, such as policy premium amount, advance payment of the premium tax credit (APTC) amount, and enrollees' plan. In the summer of 2019, CMS will work with issuers to review the 2017 benefit year D&E data discrepancies.[15]

While the 2017 benefit year documentation improved from the 2016 benefit year, we believe that additional improvements can be made. CMS identified several HCCs frequently abstracted incorrectly or without necessary supporting documentation in the SVA. CMS encourages use of the ICD-10-CM Official Guidelines for Coding and Reporting,[16] the AHA Coding Clinic, and the applicable benefit year's HHS-RADV Benefit Year Protocols to assist in making final determinations when abstracting diagnoses. The most common HCC differences between EDGE, the IVA, and the SVA, as found by the SVA for SVA-reviewed sample enrollees are noted in Table 1 below. The numbers in Table 1 reflect only the enrollees reviewed during the SVA process and therefore, only reflect the highest subsample reviewed by the SVA.

Table 1: High Variance HCCs with Associated Coding Clinic Guidance

HCC ID	HCC Name	EDGE Frequency	IVA Frequency	SVA Frequency	Coding Clinic Guidance
74	Disorders of the Immune Mechanism	309	204	132	Coding Clinic, 3rd Quarter 2015, pages: 21-22 (Immunocomprised)
75	Coagulation Defects and Other Specified Hematological Disorders	488	420	362	Coding Clinic, 2nd Quarter, 2006, page: 17 (Coagulopathy) and Coding Clinic, 1st Quarter, 2016, page: 14 (Bleeding caused by extrinsic circulating anticogualants)
120	Seizure Disorders and Convulsions	423	398	356	Coding Clinic, 1st Quarter, 2008, page: 17 (Seizure disorder-clarification)
156	Pulmonary Embolism and Deep Vein Thrombosis	437	352	307	Coding Clinic, 3rd Quarter, 1991, page: 16 (Thrombosis and thrombophelebitis of deep veins of the leg)
20	Diabetes with Chronic Complications	1,094	1,035	1,009	Coding Clinic, 2nd Quarter, 2016, pages: 36-37 (Diabetes and associated conditions clarification)
139	Atrial and Ventricular	129	110	80	Coding Clinic, 4th Quarter, 2010,

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[15] As detailed in the 2019 Payment Notice, D&E errors will be handled in a manner similar to EDGE data discrepancies under 45 CFR § 153.710. CMS will initiate a process outside of HHS-RADV to further evaluate the impact of the D&E errors, determine whether the market needs to be made whole due to the errors, and then make the necessary adjustments to affected issuers. Any adjustments resulting from D&E errors would be treated as late filed discrepancies for the benefit year being audited. See 83 FR 16970 – 16971 for further details.

[16] See CMS.gov for the latest ICD-10-CM guidelines at the following link: https://www.cms.gov/Medicare/Coding/ICD10/Downloads/2018-ICD-10-CM-Coding-Guidelines.pdf.

				page: 136 (Repaired congenital anomaly)
Septal Defects, Patent Ductus Arteriosus, and Other Congenital Heart/Circulatory Disorders				

Table 2 below also provides the highest frequency HCCs for the HCC groups used in 2017 benefit year HCC group failure calculation, based on IVA or SVA findings.

Table 2: HCC National Benchmark Metrics – HCC Group Summary

Group Summary				
HCC Group	**Total HCC Frequencies**	**Number of Unique HCCs**	**Average Risk Score in Sample[17]**	**Top 5 Highest Frequency HCCs in the HCC Group**
Low	58,367	33	4.656	20, 161, 160, 21, 56
Medium	61,800	35	10.304	8, 130, 2, 142, 23
High	60,779	59	8.841	127, 156, 88, 131, 74

Key Finding # 3: Issuers' 2017 benefit year HHS-RADV results showed lower HCC Group means and thresholds in comparison to the 2016 benefit year HHS-RADV results.

Issuers' 2017 benefit year failure rates improved and as a result, the program benchmark metrics improved. Per Table 3 below, the 2017 benefit year HHS-RADV results demonstrated lower national means, lower standard deviations, and lower thresholds.

Table 3: National Failure Rate Statistics

	Number of Included HHS-RADV Issuers	Number of Issuers Dropped	National Failure Rate Statistics				
			Group	Mean	Standard Deviation	Lower Threshold	Upper Threshold
2017 HHS-RADV Results	580	15	Low	0.048	0.097	-0.143	0.238
			Medium	0.155	0.099	-0.040	0.349
			High	0.262	0.106	0.054	0.471
2016 HHS-RADV Results	339	77	Low	0.142	0.109	-0.072	0.356
			Medium	0.251	0.114	0.028	0.475
			High	0.346	0.140	0.073	0.620

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[17] "Average risk score" is estimated by (total HCC risk score component) / (total HCC frequencies for that group). The numerator `total HCC risk score component` is the sum of each individual HCC's risk score component that was used to calculate an issuer's adjustment factor with multiple HCCs' adjustment factors. The risk score component is based on an enrollee's metal level, enrollment duration, and the coefficient in Table 9 of the HHS-Developed Risk Adjustment Model Algorithm "Do It Yourself (DIY)" Software Instructions.

Because the standard deviations of failure rates in all three HCC groups reduced the distances to the group failure rate means, the magnitude of the adjustment factor in each HCC group and error rate was also generally reduced. However, as detailed in the 2016 benefit year HHS-RADV Results memo, we modified the 2016 benefit year HHS-RADV results because there were significant concerns with some issuers' results. In the 2016 benefit year HHS-RADV results, issuers with exceptionally high HCC group failure rates (i.e., HCC group failure rates over 60% for the high HCC group, 50% for the medium HCC group and 40% for low HCC group) were excluded from calculating the program benchmark metrics, resulting in the exclusion of 77 issuers. Without these modifications, the differences in error rate results would have been more pronounced.

Key Finding #4: The 2017 benefit year had a higher number and rate of outliers, particularly positive error rate outliers.
This increase in outliers can be explained by two factors. First, since HHS-RADV uses a 95 percent confidence interval to determine outliers for each HCC grouping, when more issuers participate in HHS-RADV, more issuers are likely to be inside and outside of the confidence intervals. Because more issuers participated in the 2017 benefit year HHS-RADV, more issuers had the potential to be an outlier in at least one HCC group for the 2017 benefit year (See Table 4). This can explain an increase in the total number of HHS-RADV outliers.

Second, in comparison to the 2016 HHS-RADV results, the rate of issuers that were outliers increased in the 2017 benefit year HHS-RADV results. This increase in the rate of outliers can be attributed to the shape of the empirical distribution of failure rates in the 2017 benefit year HHS-RADV and resulted in a greater rate of outliers, particularly positive error rate outliers. In Figure 1 below, the group failure rate distributions are depicted for each HCC group. The distribution for each of the three HCC groups in the 2017 benefit year HHS-RADV results has a long right tail (See Figure 1). Therefore, partially because HCC group failure rates improved overall as demonstrated through the narrower failure rate distributions in the 2017 benefit HHS-RADV, an issuer with a failure rate that diverged significantly from the mean group failure rate was more likely be an outlier in the 2017 benefit year HHS-RADV as compared to the 2016 benefit year HHS-RADV. When combined with the larger number of issuers participating in the 2017 benefit year HHS-RADV, this resulted in a higher rate and number of outliers for the 2017 benefit year HHS-RADV as compared to the 2016 benefit year HHS-RADV.

Table 4: Comparison of 2016 and 2017 Benefit Years HHS-RADV Number of HCC Groups Outliers at Issuer Level

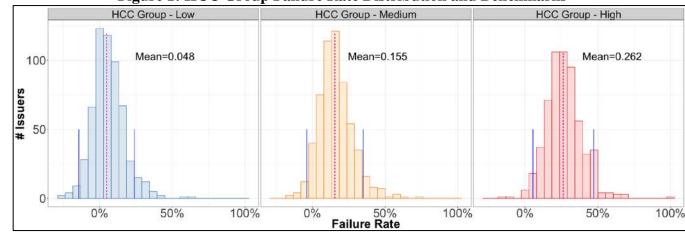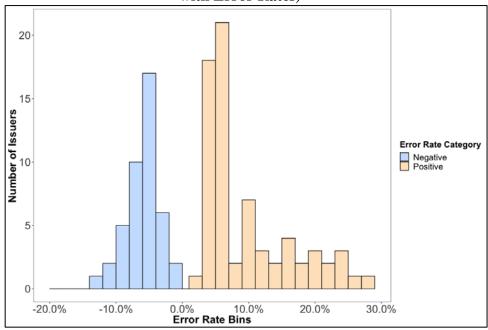|	Number of Included HHS-RADV Issuers	Number of Issuers Dropped	Group	Outliers Counts			
				Lower Bound	Upper Bound	Total	Unique Outliers
2017 HHS-RADV Results	**580**	**15**	Low	15	34	49	110
			Medium	14	34	48	
			High	19	33	52	
			Total	**48**	**101**	**149**	
2016 HHS-RADV Results	**339**	**77**	Low	8	3	11	31
			Medium	6	4	10	
			High	14	0	14	
			Total	**28**	**7**	**35**	

Figure 1: HCC Group Failure Rate Distribution and Benchmarks

The figure below demonstrates the error rate distributions for outlier issuers by error rates.

Figure 2: Issuers' 2017 Benefit Year Error Rate Distribution by Error Rate Bins (Among Issuers with Error Rates)

As stated in the 2016 benefit year HHS-RADV Results memo, based on the empirical failure rate distribution of all issuers in the 2016 benefit year HHS-RADV data, CMS expected that outliers with positive error rates would be more prevalent than outliers with negative error rates in a non-pilot year with unmodified results. The 2017 benefit year results align with this expectation. In reviewing the 2017 benefit year HHS-RADV results, we also found that the exiting issuer population had a higher rate of positive error rate issuers compared to the non-exiting issuer population (See Table 5).

Table 5: Comparison of Non-Exiting and Exiting Issuers

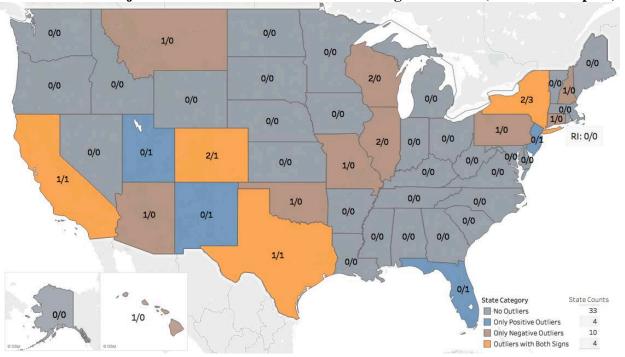| Status	Number of 2017 HHS-RADV Issuers	Metric	Positive Error Rate Outliers	Negative Error Rate Outliers	Non-Outliers
Non-Exiting	495	Count	46	37	412
		Percentage	9.29%	7.47%	83.23%
Exiting	85	Count	23	4	58
		Percentage	27.05%	4.70%	68.23%

Key Finding #5: Even with a high number of outliers, many state market risk pools will not be adjusted as a result of the 2017 benefit year HHS-RADV results.

Under the methodology finalized in the 2015 Payment Notice, all state market risk pools would have been adjusted for each and every error identified during HHS-RADV. By only adjusting issuers that are outliers under the error estimation methodology, we are only adjusting issuers' risk scores for cases where the issuer's HCC failure rates materially deviate from a national mean. Thus, although there are more outliers in the 2017 benefit year HHS-RADV results, many state market risk pools will not be adjusted. As outlined in Figures 3 and 4 below, 59 of the 146 state market risk pools will have 2018 benefit year risk scores adjusted based on the 2017 benefit year HHS-RADV results.[18] Additionally, 32 of the 149 state market risk pools have exiting issuers who are outliers resulting in their respective 2017 benefit year risk scores adjusted based on the 2017 benefit year HHS-RADV results. 2017 benefit year HHS-RADV results indicate the new methodology minimizes the disruption due to HHS-RADV, in that 87 state market risk pools will not have adjustments to 2018 benefit year risk adjustment transfers due to 2017 benefit year HHS-RADV results.

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[18] 2017 risk adjustment had 149 markets (49 catastrophic, 51 individual and 49 small group), and 2018 risk adjustment had 146 markets (46 catastrophic, 51 individual and 49 small group). Of note, we include Massachusetts in the total number of markets for 2017 and 2018.

Figure 3: Overview of 2017 Benefit Year HHS-RADV Outliers by State Markets for 2018 Benefit Year Risk Adjustment – Individual Market and Merged Markets (Non-Catastrophic)[19]

Figure 4: Overview of 2017 Benefit Year HHS-RADV Outliers by State Markets for 2018 Benefit Year Risk Adjustment – Small Group Market[20]

2017 Benefit Year HHS-RADV Results: Understanding the Findings

The HHS-RADV Audit Tool[21] provides each issuer that participated in the 2017 benefit year HHS-RADV process the following results documents:[22]

1. Program Benchmark Metrics – 2017 Benefit Year HHS-RADV (Appendix A): Provides the national program benchmarks for HCC group failure rate means and confidence intervals, and summary statistics based on all issuers' results used to establish the national HCC group failure rate metrics.

2. Estimated 2018 Benefit Year RA Market Weighted Average Risk Score Adjustments from 2017 Benefit Year HHS-RADV Results (Appendix B): Provides the estimated state market risk pool weighted average error rate for each state market risk pool.[23]

3. Estimated 2017 Benefit Year RA Market Weighted Average Risk Score Adjustments from 2017 Benefit Year HHS-RADV Results (Exiting Issuers) (Appendix C): Provides the

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[20] This map also only reflects state market risk pools that will have 2018 benefit year risk scores adjusted based on the 2017 benefit year HHS-RADV results and does not reflect exiting issuers who are outliers resulting in their respective 2017 benefit year risk scores adjusted based on the 2017 benefit year HHS-RADV results.
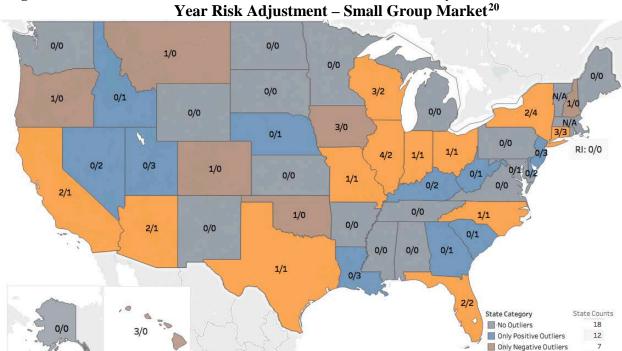
[21] The HHS-RADV Audit Tool can be accessed by issuers at: https://ccrms-rari.force.com/HHSRADVAuditTool/.

[22] Massachusetts issuers will receive a separate memo describing the results that they are receiving and how those results were calculated. As previously noted, 2017 HHS-RADV is a pilot year for Massachusetts issuers; therefore, these results will not be used to adjusted risk scores or risk adjustment transfers.

[23] We note that the state market risk pool estimates are subject to change as they do not take into account any adjustments for issuers receiving a default data validation charge, discrepancies, or appeals.

estimated state market risk pool weighted average error rate for each state market risk pool.[24]

4. 2017 Benefit Year HHS-RADV HCC Group Definitions (Appendix D): Provides the list of HCCs and the HCC Group Level classification.
5. Issuer Specific Metrics Report: Provides issuer-specific results on each HIOS ID's HCC group failure rates and error rate, if applicable. 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 HIOS ID.
6. Enrollee Level Metrics Report: Provides issuer-specific results that provide the enrollee level findings for each HIOS ID's HHS-RADV sampled enrollees' HCCs and applicable adjustments. This is available to issuers in the "History and Results" tab of the Audit Tool.[25]

The Enrollee Level Metrics Report can be used, along with values in the Issuer Specific Metrics Report, to calculate the error rate shown in the Issuer Specific Metrics Report. Issuers should note that the HIOS ID's error rate may be a zero or a non-zero rate. CMS also provides a 2017 benefit year HHS-RADV Results Job Aid report to help issuers understand the results and includes definitions for each of the data fields in the results that will be available in the HHS-RADV Audit Tool. The 2017 benefit year HHS-RADV Results Job Aid includes an addendum, called "Error Rate Calculation Example", that provides step-by-step directions for calculating an issuer's error rate.

IVA entities do not receive issuer-specific or enrollee-level reports. Issuers may choose to share their issuer-specific and enrollee-level reports with their IVA entities.

Impact of HHS-RADV Error Rates on Risk Adjustment Transfers

The impact of a risk score error rate on an issuer's risk adjustment transfers depends on whether additional outliers exist in an issuer's state market risk pool.

☐ Non-Outlier Issuers: The majority of issuers will receive a zero error rate that does not result in an adjustment to their plan liability risk score(s).[26] These issuers' results are within the confidence intervals of the national HCC group failure rates, but these issuers' risk adjustment transfers could be adjusted due to outlier issuers in their state market risk pool(s).
☐ Outlier Issuers: Issuers that are outliers outside of one or more of the HCC group confidence intervals will have adjustments made to their respective risk scores as a result of a non-zero error rate for the 2017 benefit year HHS-RADV. These non-zero error rates could be positive or negative.
  • If the error rate is positive, the issuer's risk scores are adjusted downward by the

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[24] Ibid.

[25] In the 2017 HHS-RADV Protocols in Section 7.3.3 - Calculation of Error Rates to Adjust Issuer Plan Risk Scores, 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 HHS-RADV Protocols can be accessed at:
https://www.regtap.info/uploads/library/HRADV_2017Protocols_Updates_v2.0_081018_v1_5CR_081018.pdf. The associated update log is available at:
https://www.regtap.info/uploads/library/HRADV_BY17_Updates_Log_081018_5CR_081018.pdf.

[26] Due to the budget neutral nature of the HHS-operated risk adjustment program, zero error rate issuers' transfer amounts may change due to other issuers' adjusted risk scores in their state market risk pool.

adjustment rate, which assuming no adjustments to other issuers' risk scores in the same state market risk pool, would result in a higher 2018 benefit year risk adjustment charge or lower risk adjustment payment, or shift the transfer amount from a payment to a charge.[27]

- If the error rate is negative, the issuer's risk scores are adjusted upwards by the adjustment rate, which assuming no adjustments to other issuers' risk scores in the same state market risk pool, would result in a lower 2018 benefit year risk adjustment charge or higher risk adjustment payment, or shift the transfer amount from a charge to a payment.[28]

The application of risk score 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 the 2017 benefit year HHS-RADV. We have provided the market weighted error rates by state market risk pool in Appendix B (for 2018 benefit year transfers) and Appendix C (for 2017 benefit year transfers as a result of exiting issuers), so that issuers can compare those state average error rates to the state average risk scores issuers will receive on June 28, 2019. These market weighted error rates represent the error rate that will be applied to each state market risk pool's state average risk score between June 28, 2019 and August 1, 2019, when HHS-RADV error rates are applied to 2018 (and 2017) benefit year risk scores. Issuers can use this data in conjunction with issuer-specific 2018 benefit year risk adjustment data, the state tables, and the payment transfer denominator amounts issued on June 28, 2019 to estimate the impact of the 2017 benefit year HHS-RADV error rates on their August 1, 2019 adjusted 2018 benefit year risk adjustment transfers.

To further explain Appendices B and C, issuers in state market risk pools with a "zero" market weighted error rate can generally expect no change[29] to their 2018 (or 2017) benefit year risk adjustment transfer amount(s) as a result of 2017 HHS-RADV. For issuers in state market risk pools with a non-zero market weighted error rate, the market weighted error rate will be applied to the state average risk scores in the same manner that issuers' risk score error rates are applied to issuers' risk scores. For "zero" error rate issuers in state risk pools with a "non-zero" error rate:

- In states with a positive market weighted error rate, "zero" error rate issuers can generally expect their June 28, 2019 charge to decrease, or their payment to increase, or shift the transfer amount from a charge to a payment, due to the state average risk score decreasing.
- In states with a negative market weighted error rate, "zero" error rate issuers can generally expect their June 28, 2019 charge to increase, or their payment to decrease, or shift the transfer amount from a payment to a charge, due to the state average risk score increasing.

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[27] For exiting issuers, their 2017 benefit year transfers will be adjusted. See *supra* note 2.
[28] Ibid.
[29] Values in Appendices B and C are rounded. As a result, a small number of markets with only extremely small outliers will reflect a zero value in Appendices B and C. However, the markets' weighted average error rates before rounding are not zero, but a very small number (e.g. 0.0001%). Although those very small outliers have minimum impact to non-outliers in those markets, especially large non-outliers, they could still impact themselves or other very small non-outliers' transfers to a small degree.

Next Steps

Based on these results, issuers in state market risk pools with HHS-RADV error rates will see these risk score adjustments applied to 2018 benefit year risk adjustment transfers in a separate report that will be released on August 1, 2019.[30] These adjustment amounts will be collected and distributed in the 2021 benefit year as established in the 2020 Payment Notice.[31]

Error Rate Calculation Attestation and Discrepancy Reporting Process: All 2017 benefit year HHS-RADV issuers, aside from Massachusetts issuers who are pilot year participants, are required to attest to the error rate calculation, or qualify the attestation by filing a discrepancy (see 45 C.F.R. § 153.630(d)(2)). Beginning on May 31, 2019, issuers have thirty (30) calendar days to attest to findings or qualify that attestation with a discrepancy related to the risk score error rate calculation. Issuers must complete the Error Rate Attestation and Discrepancy Reporting Process in the HHS-RADV Audit Tool. A separate communication will be distributed to issuers with instructions for completing the HHS-RADV Error Rate Attestation and Discrepancy Form. The deadline for submission of this Form for the 2017 benefit year HHS-RADV is Monday, July 1, 2019.

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

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[30] For exiting issuers, their 2017 benefit year transfers will be adjusted and these amounts will also be reflected in the August 1, 2019 report. See *supra* note 2.
[31] See 84 FR at 17506.

Appendix A: Program Benchmark Metrics – 2017 Benefit Year HHS-RADV

Data Element	Value
HIOS ID Count	580
HCC Group Detail	Low HCC Group
HCC Group Failure Lower Threshold (for Low HCC Group)	-14.30%
HCC Group Failure Upper Threshold (for Low HCC Group)	23.82%
HCC Group Weighted Avg Failure Rate (for Low HCC Group)	4.75%
HCC Group Detail	Medium HCC
HCC Group Failure Lower Threshold (for Medium HCC Group)	-3.95%
HCC Group Failure Upper Threshold (for Medium HCC Group)	34.92%
HCC Group Weighted Avg Failure Rate (for Medium HCC Group)	15.48%
HCC Group Detail	High HCC Group
HCC Group Failure Lower Threshold (for High HCC Group)	5.35%
HCC Group Failure Upper Threshold (for High HCC Group)	47.05%
HCC Group Weighted Avg Failure Rate (for High HCC Group)	26.20%
Total # Issuers Receiving an Error Rate (+ or -) Under the HCC Failure Rate	110
Percentage of Issuers with Error Rate	18.96%
Number of Outliers In All HCC Groups	149
Count of Issuers with Final Negative Error Rate	41
Percentage of Issuers with Final Negative Error Rate	7.06%
Average National Negative Error Rate	-5.88%
Count of Issuers with Final Positive Error Rate	69
Percentage of Issuers with Final Positive Error Rate	11.89%
Average National Positive Error Rate	9.77%
Negative Error Rate (Max)	-13.17%
Positive Error Rate (Max)	29.13%

Appendix B: Estimated 2018 Benefit Year RA Market Weighted Average Risk Score Adjustments from 2017 Benefit Year HHS-RADV Results

Appendix B demonstrates how 2017 benefit year HHS-RADV results are applied to 2018 benefit year risk adjustment. These estimates show the weighted average risk score adjustment for each state market risk pool based on the 2017 benefit year HHS-RADV results applied to the state wide average risk score for the 2018 benefit year risk adjustment transfers.[32] Information on the 2017 HHS-RADV adjustments to 2018 benefit year risk adjustment transfers will not be available until the August 1, 2019 report.

Estimated Market Weighted Average Risk Score Adjustments[33]											
State	Individual (Excluding Catastrophic)	Small Group	Catastrophic	State	Individual (Excluding Catastrophic)	Small Group	Catastrophic	State	Individual (Excluding Catastrophic)	Small Group	Catastrophic
AK	0.00%	0.00%	NA	KY	0.00%	0.00%	0.00%	NY	-1.19%	-1.50%	-0.49%
AL	0.00%	0.00%	0.00%	LA	0.00%	0.39%	NA	OH	0.00%	-1.30%	0.00%
AR	0.00%	0.00%	0.00%	MA	0.00%	NA	0.00%	OK	-7.44%	-5.30%	-6.70%
AZ	-3.37%	-0.06%	0.00%	MD	0.00%	0.00%	0.00%	OR	0.00%	-0.00%	0.00%
CA	-0.77%	-1.11%	-1.66%	ME	0.00%	0.00%	0.00%	PA	-0.15%	0.00%	0.00%
CO	2.63%	-0.01%	-0.71%	MI	0.00%	0.00%	0.00%	RI	0.00%	0.00%	NA
CT	-0.02%	-0.19%	0.00%	MN	0.00%	0.00%	0.00%	SC	0.00%	0.00%	0.00%
DC	0.00%	0.00%	0.00%	MO	-0.00%	-0.13%	0.00%	SD	0.00%	0.00%	0.00%
DE	0.00%	0.38%	0.00%	MS	0.00%	0.00%	NA	TN	0.00%	0.00%	0.00%
FL	0.02%	0.14%	0.00%	MT	-4.65%	-6.67%	-5.50%	TX	-1.24%	-3.16%	-2.10%
GA	0.00%	0.09%	0.00%	NC	0.00%	-0.01%	0.00%	UT	0.18%	1.13%	0.00%
HI	-1.92%	-1.84%	0.00%	ND	0.00%	0.00%	0.00%	VA	0.00%	0.00%	0.00%
IA	0.00%	-0.05%	0.00%	NE	0.00%	0.05%	0.00%	VT	0.00%	NA	0.00%
ID	0.00%	0.03%	0.00%	NH	-0.85%	-2.03%	0.00%	WA	0.00%	0.00%	0.00%
IL	-6.37%	-5.84%	-7.17%	NJ	8.62%	8.00%	6.72%	WI	-0.47%	-0.03%	-0.04%
IN	0.00%	-0.01%	0.00%	NM	0.35%	0.00%	0.36%	WV	0.00%	0.02%	0.00%
KS	0.00%	0.00%	0.00%	NV	0.00%	0.01%	0.00%	WY	0.00%	0.00%	NA

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[32] See Appendix C for information on estimated 2017 benefit year RA weighted average risk score adjustments from 2017 benefit year HHS-RADV results for exiting issuers.

[33] NA represents states with no issuers operating in that state market risk pool and are therefore grayed out. Results for merged market states (Massachusetts and Vermont) are displayed in the individual market column with an NA in the small group column. The single issuer risk pools have numerical values and the value equals the error rate of the single issuer. Values in Appendix B are rounded. As a result, a small number of markets with only extremely small outliers will reflect a zero value in Appendix B. See *supra* note 29.

Appendix C: Estimated 2017 Benefit Year RA Market Weighted Average Risk Score Adjustments from 2017 Benefit Year HHS-RADV Results (Exiting Issuers)

Appendix C demonstrates how 2017 benefit year HHS-RADV results are applied to 2017 benefit year risk adjustment for issuers who exited all of the markets in a state for the 2018 benefit year.[34] These estimates show the weighted average risk score adjustment for each state market risk pool based on the 2017 benefit year HHS-RADV results applied to the state wide average risk score for the 2017 benefit year risk adjustment transfers.[35] Information on the 2017 HHS-RADV adjustments to 2017 benefit year risk adjustment transfers will not be available until the August 1, 2019 report.

Estimated Market Weighted Average Risk Score Adjustments[36]											
State	Individual (Excluding Catastrophic)	Small Group	Catastrophic Only	State	Individual (Excluding Catastrophic)	Small Group	Catastrophic Only	State	Individual (Excluding Catastrophic)	Small Group	Catastrophic Only
AK	0.00%	0.00%	NA	KY	0.08%	0.00%	0.00%	NY	0.10%	0.00%	0.02%
AL	0.00%	0.00%	0.00%	LA	0.00%	0.00%	0.00%	OH	0.00%	0.00%	0.00%
AR	0.00%	0.00%	0.00%	MA	0.00%	NA	0.00%	OK	0.00%	0.00%	0.00%
AZ	0.00%	0.00%	0.00%	MD	0.10%	0.00%	0.00%	OR	0.00%	0.00%	0.00%
CA	0.00%	0.00%	0.00%	ME	0.00%	0.00%	0.00%	PA	0.00%	0.02%	0.00%
CO	0.02%	-0.09%	0.29%	MI	0.00%	0.00%	0.00%	RI	0.00%	0.00%	NA
CT	0.14%	0.00%	0.04%	MN	0.00%	0.00%	0.00%	SC	0.00%	0.00%	0.00%
DC	0.00%	0.00%	0.00%	MO	0.00%	0.00%	0.00%	SD	0.00%	-0.09%	0.00%
DE	0.02%	0.00%	0.00%	MS	0.00%	0.00%	0.00%	TN	0.00%	0.00%	0.00%
FL	0.02%	0.00%	0.00%	MT	0.00%	0.00%	0.00%	TX	0.02%	0.00%	0.00%
GA	0.01%	0.00%	0.00%	NC	0.03%	0.00%	0.00%	UT	0.00%	0.00%	0.04%
HI	0.00%	0.00%	0.00%	ND	0.00%	0.00%	0.00%	VA	0.00%	0.00%	0.00%
IA	0.00%	0.00%	0.00%	NE	0.00%	0.00%	0.00%	VT	0.00%	NA	0.00%
ID	0.00%	0.02%	0.00%	NH	0.00%	0.00%	0.00%	WA	0.00%	0.00%	0.00%
IL	0.06%	0.00%	0.00%	NJ	0.00%	0.00%	0.00%	WI	-0.08%	-0.19%	-0.01%
IN	-1.21%	0.00%	0.00%	NM	0.00%	0.00%	0.00%	WV	0.01%	0.04%	0.00%
KS	0.00%	0.00%	0.00%	NV	0.00%	0.04%	0.00%	WY	0.00%	0.00%	0.00%

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[34] See *supra* note 14.

[35] See Appendix B for information on estimated 2018 benefit year RA weighted average risk score adjustments from 2017 benefit year HHS-RADV results for non-exiting issuers.

[36] NA represents states with no issuers operating in that state market risk pool and are therefore grayed out. Results for merged market states (Massachusetts and Vermont) are displayed in the individual market column with an NA in the small group column. The single issuer risk pools have numerical values and the value equals the error rate of the single issuer. Values in Appendix C are rounded. As a result, a small number of markets with only extremely small outliers will reflect a zero value in Appendix C. See *supra* note 29.

Appendix D: 2017 Benefit Year HHS-RADV HCC Group Definitions

Appendix D provides the list of HCCs and the HCC Group Level classification for the 2017 benefit year HHS-RADV.

HCC	HCC Group	HCC Label
1	Low HCC Group	HIV/AIDS
2	Medium HCC Group	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock
3	High HCC Group	Central Nervous System Infections, Except Viral Meningitis
4	High HCC Group	Viral or Unspecified Meningitis
6	High HCC Group	Opportunistic Infections
8	Medium HCC Group	Metastatic Cancer
9	High HCC Group	Lung, Brain, and Other Severe Cancers, Including Pediatric Acute Lymphoid Leukemia
10	Medium HCC Group	Non-Hodgkin's Lymphomas and Other Cancers and Tumors
11	High HCC Group	Colorectal, Breast (Age < 50), Kidney, and Other Cancers
12	High HCC Group	Breast (Age 50+) and Prostate Cancer, Benign/Uncertain Brain Tumors, and Other Cancers and Tumors
13	High HCC Group	Thyroid Cancer, Melanoma, Neurofibromatosis, and Other Cancers and Tumors
18	Low HCC Group	Pancreas Transplant Status/Complications
19	High HCC Group	Diabetes with Acute Complications
20	Low HCC Group	Diabetes with Chronic Complications
21	Low HCC Group	Diabetes without Complication
23	Medium HCC Group	Protein-Calorie Malnutrition
26	High HCC Group	Mucopolysaccharidosis
27	High HCC Group	Lipidoses and Glycogenosis

HCC	HCC Group	HCC Label
28	Medium HCC Group	Congenital Metabolic Disorders, Not Elsewhere Classified
29	High HCC Group	Amyloidosis, Porphyria, and Other Metabolic Disorders
30	Medium HCC Group	Adrenal, Pituitary, and Other Significant Endocrine Disorders
34	Medium HCC Group	Liver Transplant Status/Complications
35	Medium HCC Group	End-Stage Liver Disease
36	Low HCC Group	Cirrhosis of Liver
37	Medium HCC Group	Chronic Hepatitis
38	Medium HCC Group	Acute Liver Failure/Disease, Including Neonatal Hepatitis
41	Low HCC Group	Intestine Transplant Status/Complications
42	High HCC Group	Peritonitis/Gastrointestinal Perforation/Necrotizing Enterocolitis
45	High HCC Group	Intestinal Obstruction
46	Medium HCC Group	Chronic Pancreatitis
47	Medium HCC Group	Acute Pancreatitis/Other Pancreatic Disorders and Intestinal Malabsorption
48	Low HCC Group	Inflammatory Bowel Disease
54	High HCC Group	Necrotizing Fasciitis
55	Medium HCC Group	Bone/Joint/Muscle Infections/Necrosis
56	Low HCC Group	Rheumatoid Arthritis and Specified Autoimmune Disorders
57	Low HCC Group	Systemic Lupus Erythematosus and Other Autoimmune Disorders
61	High HCC Group	Osteogenesis Imperfecta and Other Osteodystrophies
62	Medium HCC Group	Congenital/Developmental Skeletal and Connective Tissue Disorders

HCC	HCC Group	HCC Label
63	High HCC Group	Cleft Lip/Cleft Palate
64	High HCC Group	Major Congenital Anomalies of Diaphragm, Abdominal Wall, and Esophagus, Age < 2
66	Medium HCC Group	Hemophilia
67	High HCC Group	Myelodysplastic Syndromes and Myelofibrosis
68	High HCC Group	Aplastic Anemia
69	High HCC Group	Acquired Hemolytic Anemia, Including Hemolytic Disease of Newborn
70	Medium HCC Group	Sickle Cell Anemia (Hb-SS)
71	Medium HCC Group	Thalassemia Major
73	High HCC Group	Combined and Other Severe Immunodeficiencies
74	High HCC Group	Disorders of the Immune Mechanism
75	Medium HCC Group	Coagulation Defects and Other Specified Hematological Disorders
81	High HCC Group	Drug Psychosis
82	High HCC Group	Drug Dependence
87	Low HCC Group	Schizophrenia
88	High HCC Group	Major Depressive and Bipolar Disorders
89	High HCC Group	Reactive and Unspecified Psychosis, Delusional Disorders
90	High HCC Group	Personality Disorders
94	Medium HCC Group	Anorexia/Bulimia Nervosa
96	Low HCC Group	Prader-Willi, Patau, Edwards, and Autosomal Deletion Syndromes
97	High HCC Group	Down Syndrome, Fragile X, Other Chromosomal Anomalies, and Congenital Malformation Syndromes

HCC	HCC Group	HCC Label
102	Low HCC Group	Autistic Disorder
103	Low HCC Group	Pervasive Developmental Disorders, Except Autistic Disorder
106	High HCC Group	Traumatic Complete Lesion Cervical Spinal Cord
107	High HCC Group	Quadriplegia
108	Medium HCC Group	Traumatic Complete Lesion Dorsal Spinal Cord
109	Low HCC Group	Paraplegia
110	High HCC Group	Spinal Cord Disorders/Injuries
111	High HCC Group	Amyotrophic Lateral Sclerosis and Other Anterior Horn Cell Disease
112	Low HCC Group	Quadriplegic Cerebral Palsy
113	Medium HCC Group	Cerebral Palsy, Except Quadriplegic
114	Low HCC Group	Spina Bifida and Other Brain/Spinal/Nervous System Congenital Anomalies
115	Medium HCC Group	Myasthenia Gravis/Myoneural Disorders and Guillain-Barre Syndrome/Inflammatory and Toxic Neuropathy
117	Low HCC Group	Muscular Dystrophy
118	Low HCC Group	Multiple Sclerosis
119	Medium HCC Group	Parkinson's, Huntington's, and Spinocerebellar Disease, and Other Neurodegenerative Disorders
120	Low HCC Group	Seizure Disorders and Convulsions
121	Medium HCC Group	Hydrocephalus
122	High HCC Group	Non-Traumatic Coma, Brain Compression/Anoxic Damage
125	Low HCC Group	Respirator Dependence/Tracheostomy Status
126	High HCC Group	Respiratory Arrest

HCC	HCC Group	HCC Label
127	High HCC Group	Cardio-Respiratory Failure and Shock, Including Respiratory Distress Syndromes
128	Low HCC Group	Heart Assistive Device/Artificial Heart
129	Medium HCC Group	Heart Transplant
130	Medium HCC Group	Congestive Heart Failure
131	High HCC Group	Acute Myocardial Infarction
132	High HCC Group	Unstable Angina and Other Acute Ischemic Heart Disease
135	High HCC Group	Heart Infection/Inflammation, Except Rheumatic
137	High HCC Group	Hypoplastic Left Heart Syndrome and Other Severe Congenital Heart Disorders
138	High HCC Group	Major Congenital Heart/Circulatory Disorders
139	High HCC Group	Atrial and Ventricular Septal Defects, Patent Ductus Arteriosus, and Other Congenital Heart/Circulatory Disorders
142	Medium HCC Group	Specified Heart Arrhythmias
145	High HCC Group	Intracranial Hemorrhage
146	High HCC Group	Ischemic or Unspecified Stroke
149	Medium HCC Group	Cerebral Aneurysm and Arteriovenous Malformation
150	Low HCC Group	Hemiplegia/Hemiparesis
151	High HCC Group	Monoplegia, Other Paralytic Syndromes
153	High HCC Group	Atherosclerosis of the Extremities with Ulceration or Gangrene
154	High HCC Group	Vascular Disease with Complications
156	High HCC Group	Pulmonary Embolism and Deep Vein Thrombosis
158	High HCC Group	Lung Transplant Status/Complications

HCC	HCC Group	HCC Label
159	Medium HCC Group	Cystic Fibrosis
160	Low HCC Group	Chronic Obstructive Pulmonary Disease, Including Bronchiectasis
161	Low HCC Group	Asthma
162	Medium HCC Group	Fibrosis of Lung and Other Lung Disorders
163	High HCC Group	Aspiration and Specified Bacterial Pneumonias and Other Severe Lung Infections
183	Low HCC Group	Kidney Transplant Status
184	High HCC Group	End Stage Renal Disease
187	Low HCC Group	Chronic Kidney Disease, Stage 5
188	Low HCC Group	Chronic Kidney Disease, Severe (Stage 4)
203	Low HCC Group	Ectopic and Molar Pregnancy, Except with Renal Failure, Shock, or Embolism
204	High HCC Group	Miscarriage with Complications
205	High HCC Group	Miscarriage with No or Minor Complications
207	High HCC Group	Completed Pregnancy With Major Complications
208	High HCC Group	Completed Pregnancy With Complications
209	Medium HCC Group	Completed Pregnancy with No or Minor Complications
217	Low HCC Group	Chronic Ulcer of Skin, Except Pressure
226	High HCC Group	Hip Fractures and Pathological Vertebral or Humerus Fractures
227	High HCC Group	Pathological Fractures, Except of Vertebrae, Hip, or Humerus
242	High HCC Group	Extremely Immature Newborns, Birthweight < 500 Grams
243	Medium HCC Group	Extremely Immature Newborns, Including Birthweight 500-749 Grams

HCC	HCC Group	HCC Label
244	Medium HCC Group	Extremely Immature Newborns, Including Birthweight 750-999 Grams
245	Medium HCC Group	Premature Newborns, Including Birthweight 1000-1499 Grams
246	High HCC Group	Premature Newborns, Including Birthweight 1500-1999 Grams
247	Low HCC Group	Premature Newborns, Including Birthweight 2000-2499 Grams
248	Medium HCC Group	Other Premature, Low Birthweight, Malnourished, or Multiple Birth Newborns
249	High HCC Group	Term or Post-Term Singleton Newborn, Normal or High Birthweight
251	Low HCC Group	Stem Cell, Including Bone Marrow, Transplant Status/Complications
253	Low HCC Group	Artificial Openings for Feeding or Elimination
254	Low HCC Group	Amputation Status, Lower Limb/Amputation Complications